VIRGIN ISLANDS DEPARTMENT OF COMMERCE

# CROWN BAY PORT AREA

# MASTER PLAN AND RESOURCE DATA

DECEMBER 1984





ey, Schuh & Jernigan, Inc.
RING • PLANNING • ARCHITECTURE

W.F. McCOMB ENGINEERING, P.C.
CIVIL & ENVIRONMENTAL ENGINEERING

# MASTER PLAN AND RESOURCE DATA

# CROWN BAY PORT AREA

Prepared for

Government of the Virgin Islands
Department of Commerce

December 1984



Prepared by

W. F. McCOMB ENGINEERING P.C.
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# Section 1
# INTRODUCTION AND CONCLUSIONS

## 1.1 PROJECT DESCRIPTION

The Virgin Island Department of Commerce retained the services of McComb Engineering, Inc. and Post, Buckley, Schuh & Jernigan, Inc. to study the Crown Bay area, including the Sub-Base. The purpose of the study is to develop a master plan to guide the area's growth in an orderly manner, beneficial to both residents and local businessmen. This growth area is being stimulated by the Virgin Island Port Authority (V.I.P.A.) through the development of a new Cruise Terminal and expansion of the Cargo Port area. The influx of tourist and expanded commercial activities will impact the area's roads, services, and existing business facilities.

The primary goal of the master plan is to provide for the balanced use of island resources and infrastructure so as to better the socio-economic position of the island's inhabitants. In so doing, the plan:

- Recognizes the island's long-term demands for growth
- Recognizes the site's unique setting in relation to the harbor and the town
- Provides the maximum degree of flexibility to enable the plan to adapt to changes in use and in technology
- Provides the maximum level of diversity and linkage to existing economic components
- Offers an optimum return on investment in the short- and long-term, measured against additional employment opportunities and economic benefits
- Harmonizes with the existing natural and man-made elements in the area with a minimal degree of adverse impacts.

Conversely, the plan discourages development that:

- Could be detrimental to the long-term growth of the island

- o Is not site-dependent
- o Could be impacted significantly by rapid economic or technological change
- o Has narrow economic linkage to the island's established infrastructure
- o Sacrifices long-term economic advantages through expedient short-term gains
- o Is not compatible with the site's natural systems and existing uses.

The secondary goal of the plan is to encourage the maximum degree of private investment and participation by planning facilities that:

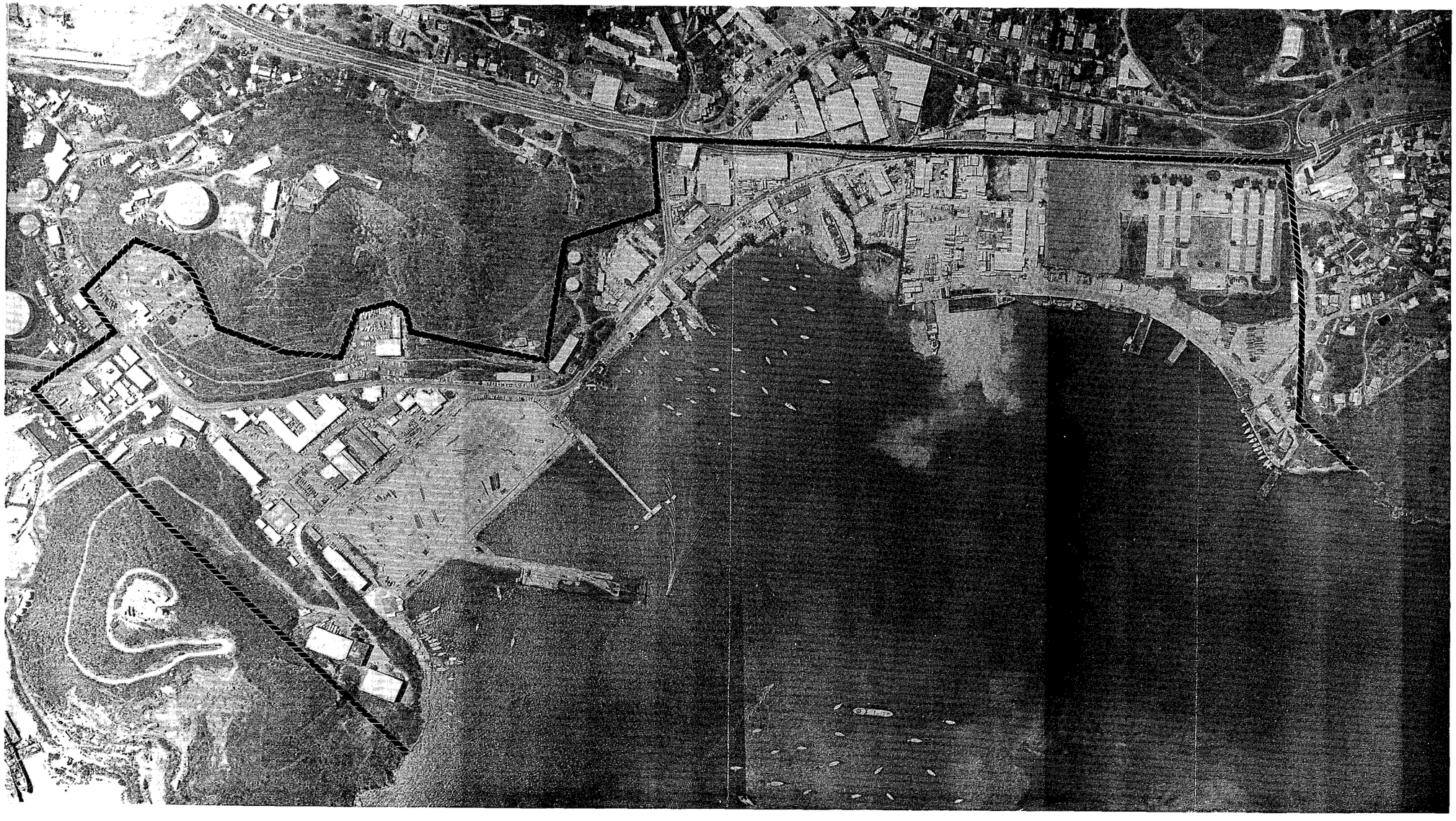
- o Encourage private initiative and investment
- o Complement existing and planned facilities operated elsewhere by private enterprise.

Two reports have been prepared. The main report, the "Master Plan and Resource Data," reflects the full scope of the study, and contains much of the analysis and data used therein. The second, the "Master Plan Executive Summary," contains only a synopsis of the study, and relies on the main report as a resource document for reference.

## 1.2 DESCRIPTION OF PROJECT AREA

The Crown Bay Port area is shown in Drawing 001. It measures approximately 48 acres and includes the areas known as Crown Bay and Sub-Base. The area is bounded:

- o On the north by Veterans Drive
- o On the south by the bay, including new land created by the V.I.P.A.
- o On the east by Careen Hill
- o On the west by the base of Haypiece Hill.



PLANNING AREA BOUNDARY

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| DESIGN | NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK | **Post, Buckley, Schuh & Jernigan, Inc.** ENGINEERS, ARCHITECTS and PLANNERS | W. F. McCOMB ENGINEERING, P.C. CIVIL & ENVIRONMENTAL ENGINEERING | CROWN BAY AREA **PROJECT AREA** | JOB NO<br>F B NO<br>DATE DEC. 1984<br>SCALE 1:200 |
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## 1.3 CONCLUSIONS

The following is a summary of the Master Plan conclusions, which are described in greater detail in subsequent sections of this document.

- Tourism is now, and will continue to be, a major factor in the island's economy. As such, development in the Crown Bay area should enhance, contribute to and coordinate with the Virgin Island Port Authority's (V.I.P.A.) newly constructed Cruise Port, due to be operational in 1985.

- Local business is optimistic about future growth, with many individuals having needs and plans for expansion. Their needs, in terms of area required to expand, are recognized in the Master Plan.

- Forecasts of cruise vessel calls and passenger visits indicate that at least three berths will be required for cruise vessels, with one of the berths being utilized as a possible cruise vessel home-port berth.

- Home-porting of small cruise vessels is now a fact; home-porting of a major cruise line vessel is feasible. The Master Plan includes provision for a home-port berth which will accommodate both large and small vessels.

- The availability of bunkering will be beneficial in promoting such home-porting and in continuing to make St. Thomas an attractive port-of-call.

- General cargo in containers in St. Thomas is increasing substantially and could require as much as 20 additional acres of land by the year 2000. The planned expansion of the Cargo Port allocates as much area as possible to fulfill this requirement in phases. The post-1990 expansion assumes acquisition of the Cancryn School property.

- The Master Plan recommends relocating the Cancryn School to better allocate this valuable port area for port use and to provide a safer, more convenient school.

- The Master Plan expands the cargo wharf to include a roll-on/roll-off (RO/RO) berth to better serve container handling and to act as a breakwater for the marina.

- The Master Plan includes area for a 100-boat marina to supplement the cruise port, providing revenue and employment for the island as well as an attraction for visitors.

- The Master Plan recommends that area be allocated for the construction of a hotel, contiguous to the marina.

- Three phases of road improvements are required to sustain the increased traffic that will result from the area's expansion.

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# Section 2
# STATUS AND TRENDS

## 2.1 SUMMARY OF PREVIOUS PORT-RELATED STUDIES

The Caribbean Cruise Industry Study, completed in June 1983, places St. Thomas in the enviable position of being the best liked "country" by 36 percent of cruise tourists (vs. 15 percent for the nearest runner up, Jamaica). Thirty-eight percent of the cruise tourists indicated that St. Thomas would be their first choice of return (vs. 20 percent for Jamaica).

Of the 21 major cruise lines plying the Caribbean, 17 utilize St. Thomas as a regular port of call.

Cruise tourists perceive the following as needing attention:

- Taxi and mini-bus fares should be discounted for groups rather than on a per-person basis.
- Welcoming activities and in-town shopping are either non-existent or too limited on weekends and holidays.
- Cultural attractions as well as beach trips are needed, rather than just shopping.

Overall, 79 percent of visiting cruise tourists consider themselves satisfied to very satisfied with St. Thomas.

The Virgin Islands Trade Study, an economic analysis completed in 1979, indicates that earnings amassed from the tourist industry greatly offset the trade deficit that results from the importation of consumables. The leading import to the Virgin Islands from the U.S. is food, while exports to the mainland are limited but quite substantial in value. The latter, of course, refer to petroleum and alumina exports from St. Croix which have little direct beneficial impact on St. Thomas but do increase Government revenues generally.

Freight rates play an important role in the basic cost of food; as much as 16 percent of the retail price is attributable to freight cost. Rates are substantially lower for direct shipments from the mainland than for transshipments through Puerto Rico. A 1979 survey of local entrepreneurs indicated serious concern over the level of ocean freight charges. One of the major factors contributing to the high level of ocean shipping costs is the absence of backhaul cargo.

The Arthur D. Little, Inc. report of June 1980 addressed the "Financial Feasibility of New Terminal Facilities at Crown Bay." Based on V.I.P.A. plans at that time, the report concluded the following: since major cruise ship operators indicated that they would continue to call at St. Thomas, in spite of the lack of adequate docking facilities, and since insufficient revenue could be generated to support the planned expansion, the V.I.P.A. should consider increasing fees and consider design alternatives to the studied plan. This report is somewhat substantiated by the 1983 Caribbean Cruise Industry Study in that St. Thomas remains the most popular tourist port of call, despite the lack of additional cruise berthing facilities; however, the A.D. Little report does not address the subjective issue of the sensitivity of cruise lines to tourists' complaints or conversely to tourists' satisfaction.

The 1983 Crown Bay Master Plan, issued by the V.I.P.A., utilizes as a basis the 1980 Arthur D. Little, Inc. report, the 1976 Kuljian Corporation report on Terminal Expansion, the 1980 Corps of Engineers report on channel improvement, and the 1980 Caribtec Laboratories Environmental Assessment Report. The 1983 Master Plan changes and improves upon the 1975 V.I.P.A. plans, and provides for a phased construction program which results in two deep water cruise ship berths, one multi-use berth, a marina area and over 20 acres of new land created from dredge material.

In summary, previous reports and studies substantiate each other on the following points:

- o The economy of the Virgin Islands in general and St. Thomas in particular, is seriously dependent on the tourist industry and, by implication, those factors that affect the industry.
- o St. Thomas is, at the present time, the most popular tourist port of call in the Caribbean.
- o To maintain, increase, and solidify this position, it is self-evident that St. Thomas must sustain and further develop the infrastructure upon which the tourist industry is built.

## 2.2 PRIVATE SECTOR OUTLOOK

### 2.2.1 Airlines

Three major airlines at present serve St. Thomas directly, with scheduled flights out of Miami and New York. This service is augmented by charter flights, many of which originate in Texas. Together these services deliver 50 percent of the stay-over visitors to St. Thomas.

The balance of St. Thomas visitors arrive via San Juan, which is able to access a far greater number of points of origin. To complete these trips, about eight companies provide a large number of small "commuter" flights from San Juan to St. Thomas. This method of reaching St. Thomas is less popular because of the delays and congestion at San Juan, and endemic problems with baggage.

It is usual for cruise liners to work closely with airlines to secure a proportion of their seats for cruise ship home-ports. At present, the volume of air traffic into St. Thomas by major carriers does not permit this arrangement, and chartering flights to serve large home-porting vessels would be necessary. Chartering would not be a popular arrangement with the cruise lines and, even when the new runway is completed (possibly in 1988), the volume of scheduled flights might not be great enough to permit the peak flows of passengers to be brought to large home-porting ships.

### 2.2.2 Cruise Lines

Cruise lines generally plan their schedules on a one-year firm basis, allowing themselves the flexibility of long-term schedule changes that are in tune with tourist requirements.

At this time, the cruise industry is optimistic about the 1985-1986 outlook and expects steadily increasing tourist trade. A number of operators are bringing new vessels on line, some of which are destined to make St. Thomas a regular port of call.

Cruise lines are flexible in their long-range plans. A number of lines have expressed interest in home-porting in St. Thomas (see Section 3.1).

### 2.2.3 Commercial Outlook

Interviews with port users indicate a positive outlook. All foresee a continuation of gradual economic growth, and most entrepreneurs have plans for expansion to meet this growth. The following concerns were voiced, all of which are pertinent in the development of a long-range master plan:

- Warehouse availability in the Crown Bay area is inadequate. If it were available, it could be utilized.

- Cruise lines have indicated a positive response to possible fuel bunkering in St. Thomas.

- The possibility of Free Trade Zone status should be explored.

- Puerto Rico has become the transshipment center of the Caribbean. Adequate berthing and storage facilities in St. Thomas could mean greater cargo throughput and possible development of St. Thomas as a major transshipment port, reducing dependency on Puerto Rico as a primary source of cargo, with a corresponding reduction in shipping costs. The expected growth of cargo is projected and analyzed in detail in Section 3.2.

- St. Thomas has an added attraction to shippers, as the work force is not unionized.

- The road system servicing the Crown Bay area is adequate now, but could be a major bottle neck to further development of the area. The area should include dedicated port roads.

- Development of the Sub-Base area as a cruise-tourist-related area is seen as beneficial to the general economy.

- Recreational and charter boating requirements could be accommodated in the Crown Bay area, as these activities not only complement the cruise line activities, but provide a valuable service to residents, and a good return on investment.

## 2.3 SOCIO-ECONOMIC TRENDS

This section identifies the parameters which influence the economy of the Virgin Islands and which appear pertinent to the future development within the Crown Bay area. It does not present a definitive socio-economic model on which to base quantifiable estimates of land use demands or future income generation, but rather provides a background to the proposals which will be made later in the study.

Explored are the germane issues which have been identified by the large volume of previous analyses undertaken in the field, largely by the Policy Planning and Research Office of the Virgin Islands Department of Commerce, as well as independent work which is referenced when used. Each of the sub-sections is derived from reference data, which should be referred to for more detailed information.

Two dominant issues are explored: those of employment opportunity and those of income generation, for if Crown Bay is to play a positive role in the island's economic life, it must act as a catalyst in these fields.

### 2.3.1 Human Resources

Whereas population growth provides the most basic socio-economic indicator, the Virgin Islands is so small a unit relative to the U.S. as a whole that no clear inferences can be drawn from past trends or realistic predictions made of future growth. What can be stated is that the Virgin Islands has always been subject to significant population changes largely dictated by outside influences. As long as it remains a component of the "open" national economy, it will continue to experience "booms" and slacks, with the continental job market acting as both a cushion and a sponge. Figure 2-1 shows the trends in employment distribution in the Virgin Islands, indicating that only small changes have occurred between 1975 and 1982.

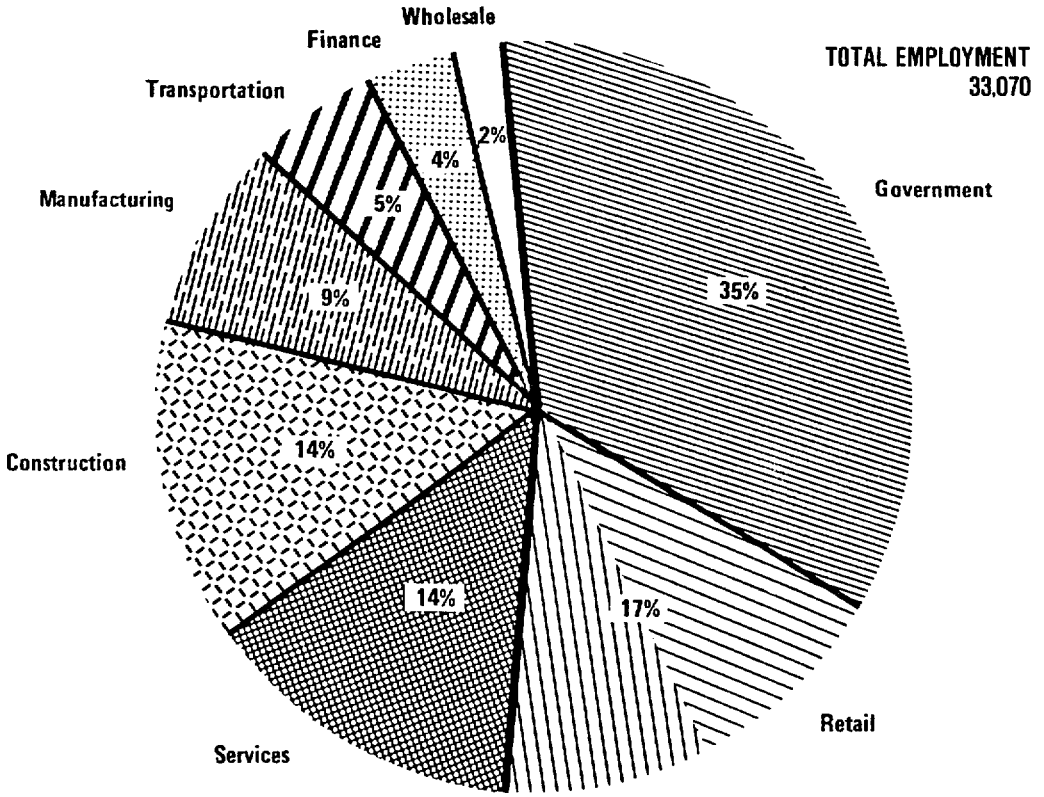
Total employment in 1983 of 35,000 jobs was 900 jobs fewer than in 1980 when unemployment stood at 9 percent, yet the rate of unemployment in 1983 was only 8.3 percent (see Figure 2-2). This shrinkage must be accounted for by a high rate of outmigration, without which the Virgin Islands could have experienced a far greater level of economic hardship. This flow is complemented by a counterflow of tourist industry workers drawn to the islands during the winter season when employment peaks.

Figure 2-3 lists the local trends in employment since 1975, together with sundry related indicators. Each of these catagories of employment is explored in the following summation.

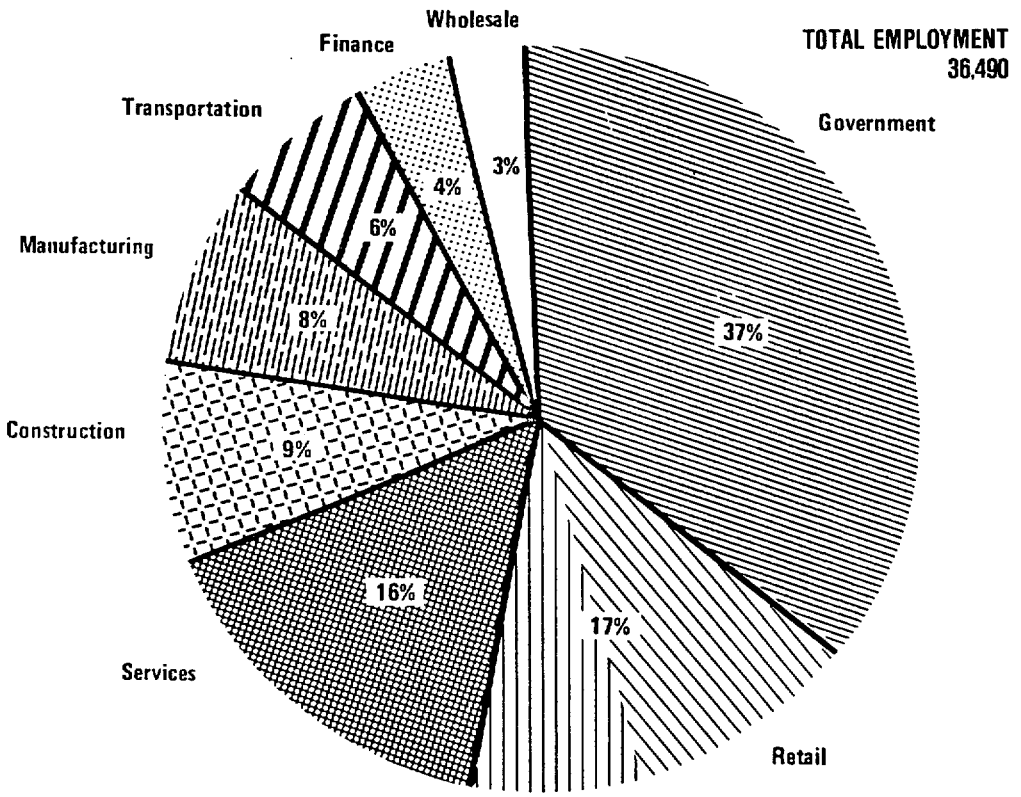
### 2.3.2 Hotels and Services

Figure 2-4 shows the trend in employment in hotels and lodging houses. Although the industry is seasonal in nature, its lack of real growth is obvious. December 1983 levels were equivalent to those recorded in 1976-77, seven years ago. Since 1980, 500 workers have left the industry to find employment in other fields or other regions. These workers represent about one-fifth of the work force employed in the industry at present.

PERCENT DISTRIBUTION OF NONAGRICULTURAL EMPLOYMENT BY INDUSTRY, V.I. 1975



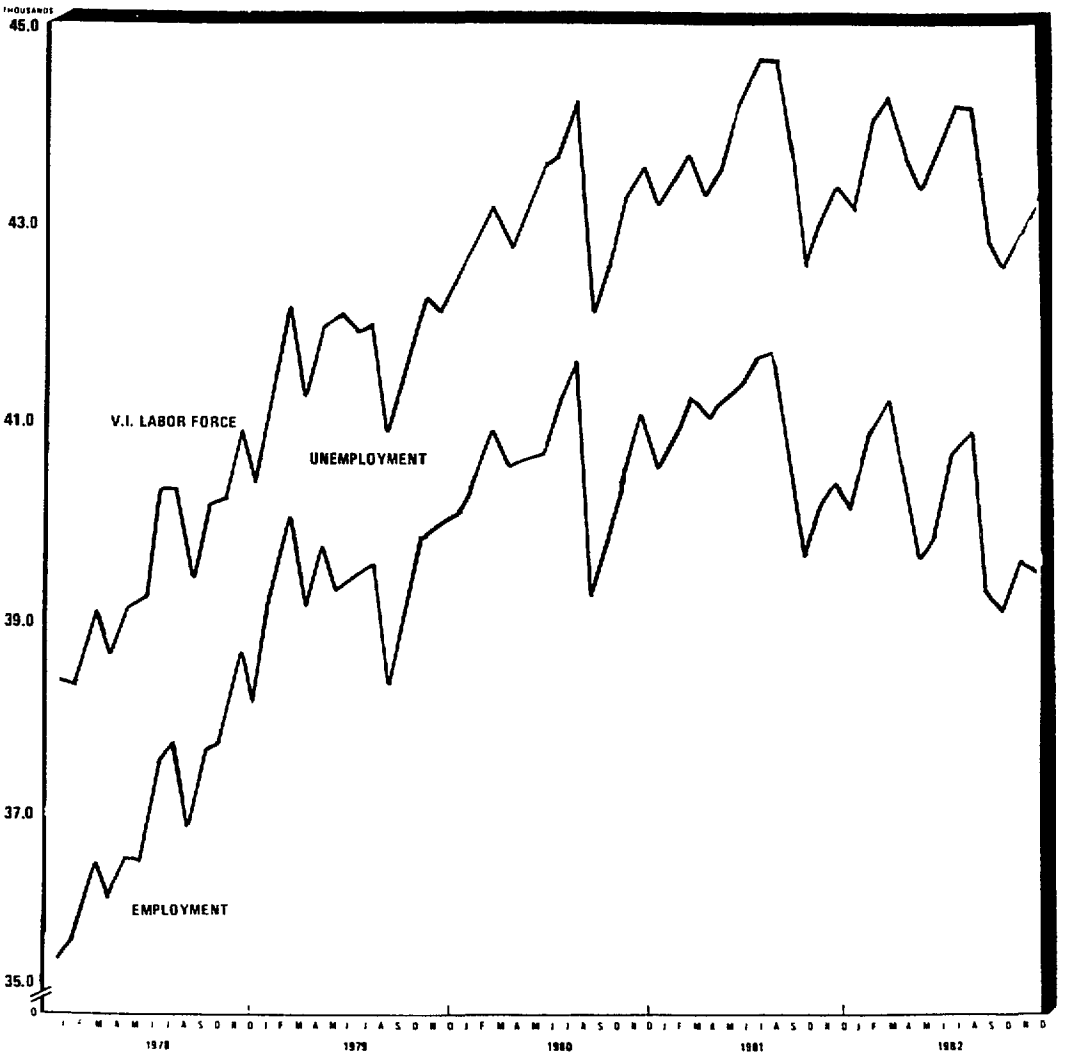

PERCENT DISTRIBUTION OF NONAGRICULTURAL EMPLOYMENT BY INDUSTRY, V.I. 1982




SOURCE: V.I. Department of Labor's Bureau of Labor Statistics, Research and Analysis.

FIGURE 2-1

V.I. LABOR FORCE, EMPLOYMENT, UNEMPLOYMENT
1978 - 1982




SOURCE: Table 1 and V.I. Department of Labor's Bureau of Labor Statistics, Research and Analysis.

# V.I. LABOR FORCE, EMPLOYMENT, UNEMPLOYMENT 1978-1982

FIGURE 2-2

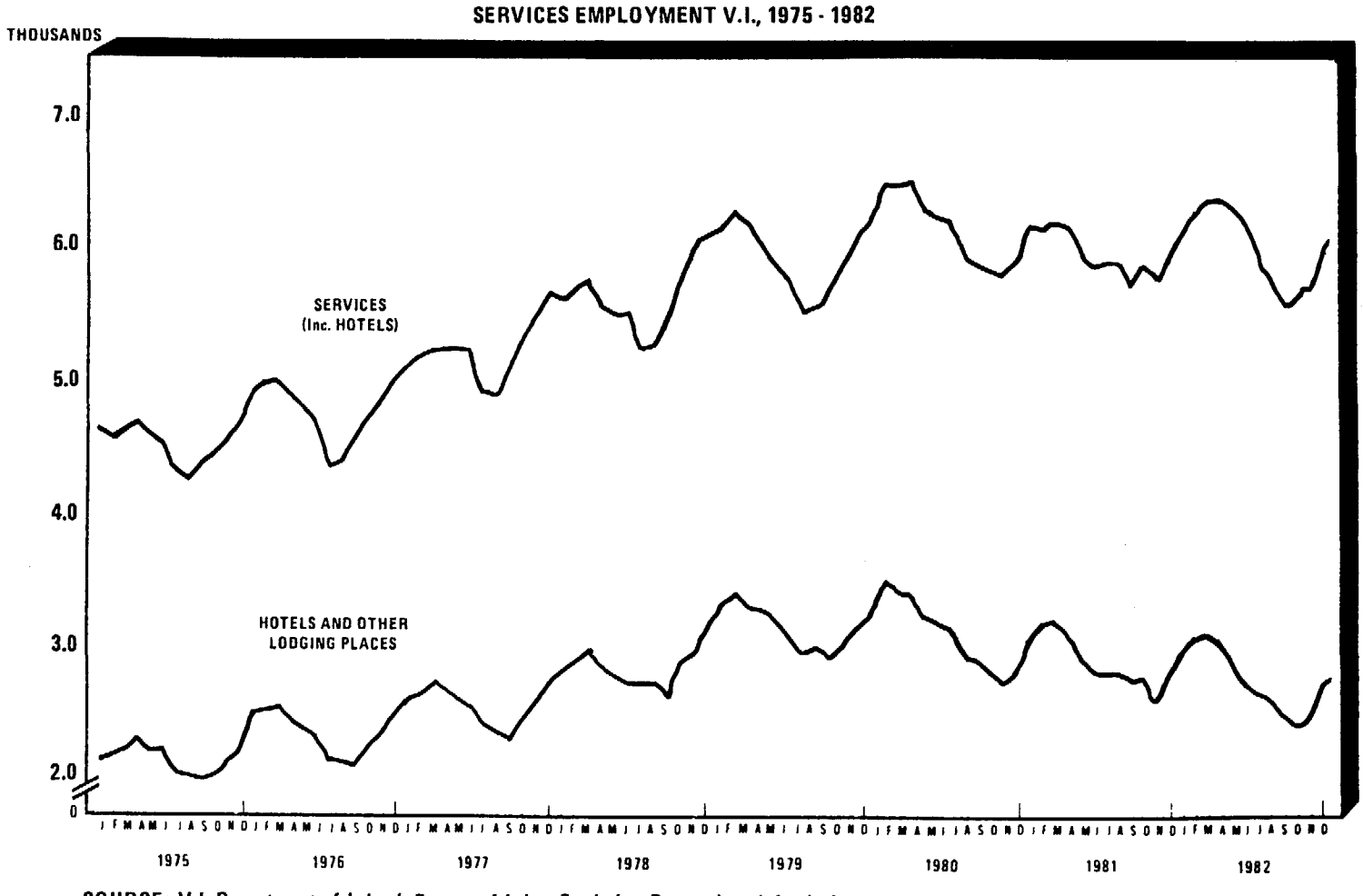
# V.I. EMPLOYMENT AND RELATED INDICATORS

| Catagory x Thousands | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EMPLOYMENT BY INDUSTRY | | | | | | | SUNDRY | | | | |
| YEAR | Total | Construction | Trucking And Warehousing | Water Transport | Retail | Hotels, Business, And Amusements | Hotels And Lodging Houses | Value Of Building Permits (Millions) | Number Of Hotel Rooms | Tourists | Vistor Air Arrivals | Cruise Liner Vistors |
| 1975 | 33.1 | 4.5 | 0.26 | 0.13 | 5.5 | 3.2 | 2.1 | 28.2 | 4.5 | 325 | 455 | 451 |
| 1976 | 31.3 | 2.8 | 0.22 | 0.14 | 5.6 | 3.4 | 2.3 | 30.7 | 4.4 | 340 | 468 | 488 |
| 1977 | 32.2 | 2.5 | 0.19 | 0.17 | 5.8 | 4.0 | 2.5 | 43.2 | 4.7 | 379 | 524 | 515 |
| 1978 | 33.8 | 2.4 | | 0.29 | 6.2 | 4.2 | 2.8 | 41.3 | 4.8 | 427 | 591 | 548 |
| 1979 | 36.1 | 2.8 | 0.19 | 0.27 | 6.6 | 4.5 | 3.1 | 73.1 | 4.8 | 448 | 619 | 603 |
| 1980 | 37.3 | 3.5 | 0.2 | 0.24 | 6.6 | 4.6 | 3.0 | 103.1 | 4.7 | 380 | 525 | 691 |
| 1981 | 37.6 | 3.3 | 0.2 | 0.30 | 6.7 | 4.4 | 2.9 | 62.7 | 4.8 | 343 | 475 | 695 |
| 1982 | 36.3 | 3.5 | | 0.44 | 6.3 | 4.4 | 2.7 | 58.4 | 4.5 | 340 | 470 | 586 |
| 1983 | 35.7 | 2.4 | 0.15 | 0.19 | 6.4. | 4.1 | 2.6 | 69.4 | 4.3 | 346 | 478 | 633 |

SOURCES: V.I. Department of Labor's Bureau of Labor Statistics, Research and Analysis.
V.I. Department of Commerce - Office of Policy & Planning.

FIGURE 2-3

SERVICES EMPLOYMENT V.I., 1975-1982




SOURCE: V.I. Department of Labor's Bureau of Labor Statistics, Research and Analysis.

FIGURE 2-4

Figure 2-3 indicates a strong link between the number of hotel rooms and the number of persons employed in the industry, demonstrating that more hotel rooms mean more direct and indirect jobs. What is more, the hotel and service industry brings in more income to the Virgin Islands than any other.

### 2.3.3 Construction

Worldwide, the construction industry always experiences severe strains during and following cycles of booms and the Virgin Islands is no exception. Figure 2-5, which shows the historic pattern of employment within the construction industry over the last 10 years, indicates that there is no stable trend in employment numbers over this period and that there has been a net loss of 3,000 workers from the industry. One thousand of these workers moved to the ranks of the jobless, or to other occupations during the last 2 years only.

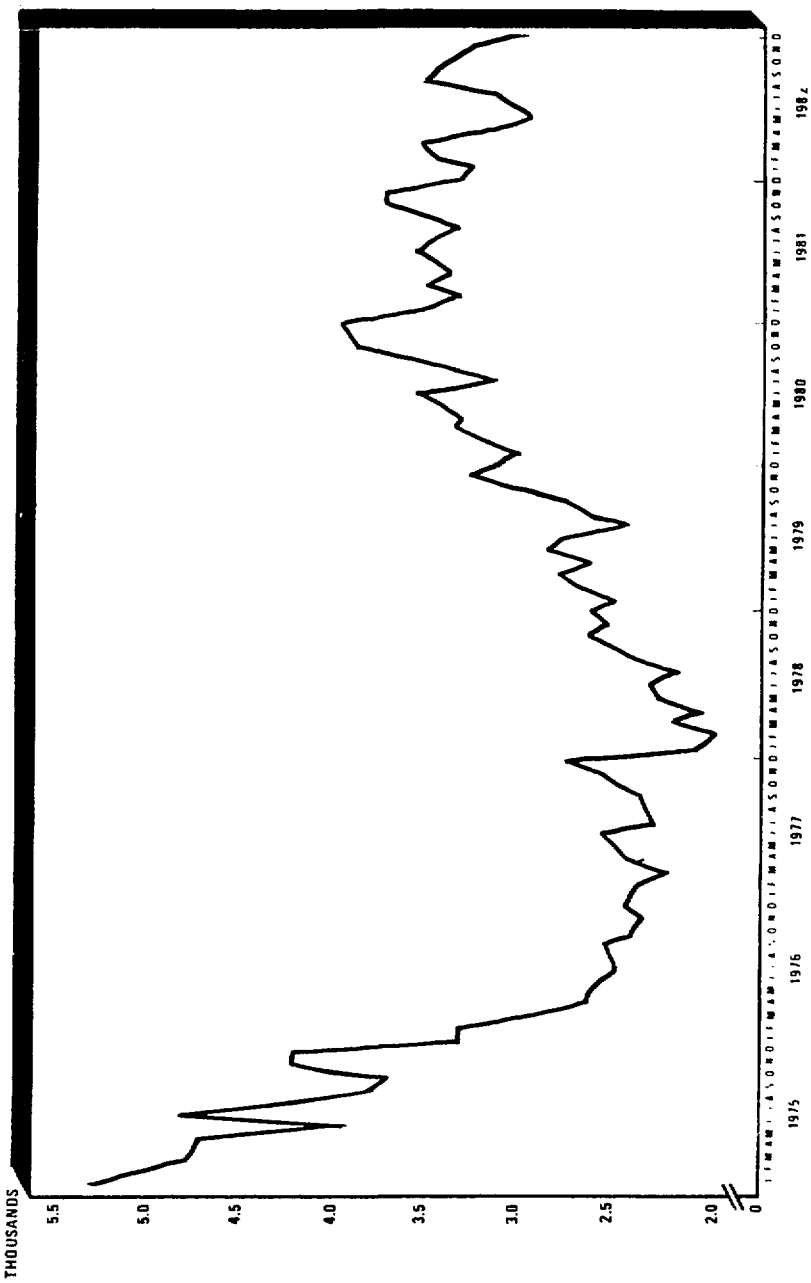
The building industry represents 7 percent of the total employment, even in today's deflated market, and is one whose products encourage investment in the island.

### 2.3.4 Transportation

Figure 2-3 indicates that this segment of the industry, while contributing only 1 percent of the jobs in the Virgin Islands, is a stable one, with the real numbers of employees in neither the trucking and warehousing nor the water transport sections varying significantly over the 9-year period studied.

### 2.3.5 Retail

Figure 2-1 shows the importance of the retail trade as a provider of job opportunities, and also the reasonable long-term stability in the industry over the period listed; however, Figure 2-6 indicates the seasonal instability that exists in employment in the retail trade because of the local economy's dependence on the tourist trade. In 1983, retail trade provided 18 percent

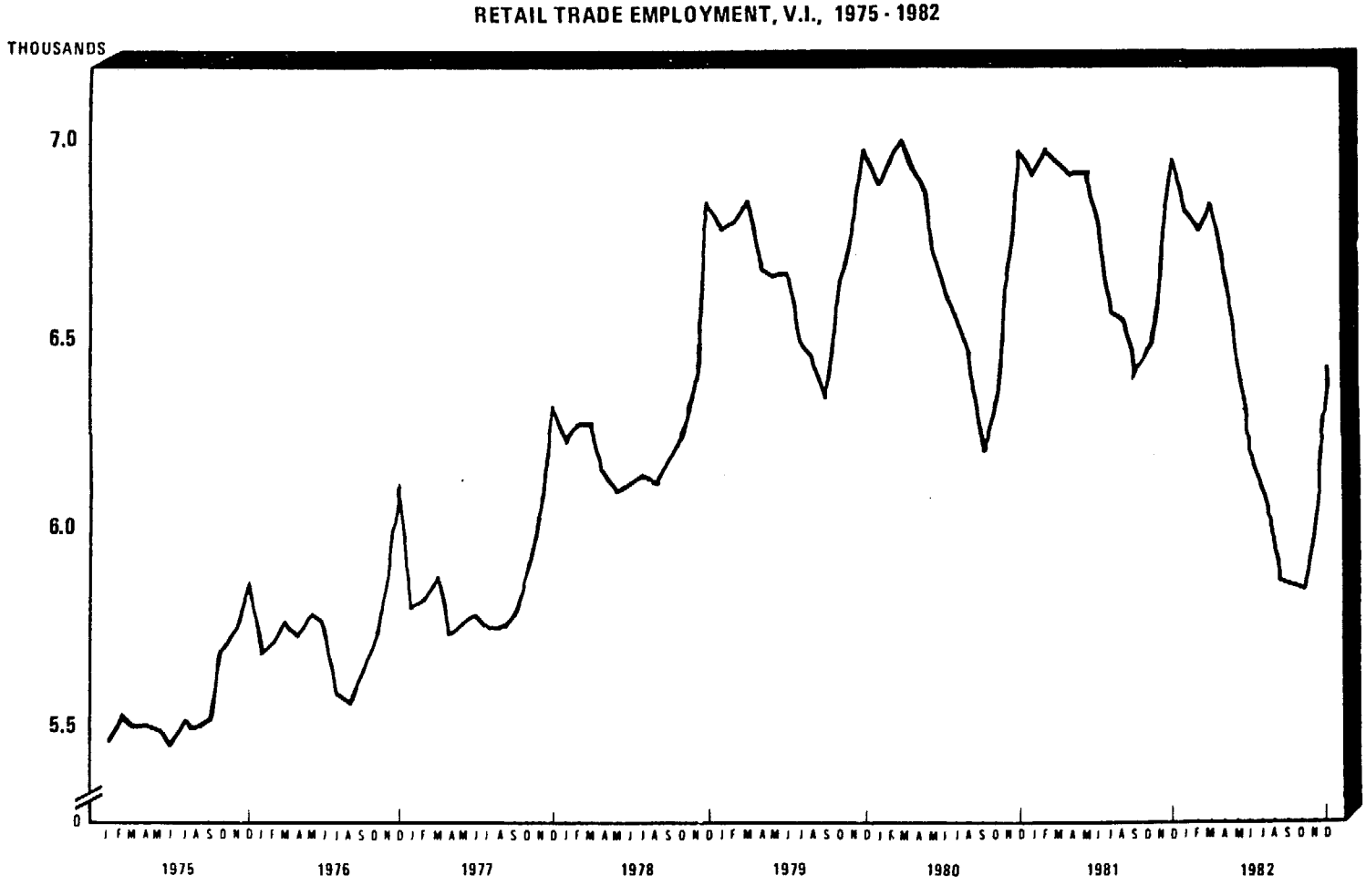



SOURCE: V.I. Department of Labor's Bureau of Labor Statistics, Research and Analysis.

# CONSTRUCTION EMPLOYMENT, V.I., 1975-1982

FIGURE 2-5

RETAIL TRADE EMPLOYMENT, V.I., 1975-1982




SOURCE: V.I. Department of Labor's Bureau of Labor Statistics, Research and Analysis.

FIGURE 2-6

of the total employment, second only to government. During the last 4 years, retrenchment during the off-season averaged 12 percent of the work force in the retail industry or 2 percent of the total work force.

## 2.4 INCOME GENERATION

While the sources of government revenue are not the most dominant issue in identifying the economic health of the Virgin Islands, they are a useful indicator. Figure 2-7 shows the proportions of the various elements which contribute to government revenue. This diagram was prepared to reflect the 1981 position; but when earlier statistics were analyzed, it was found that the proportions have not varied significantly over the last 8 years.

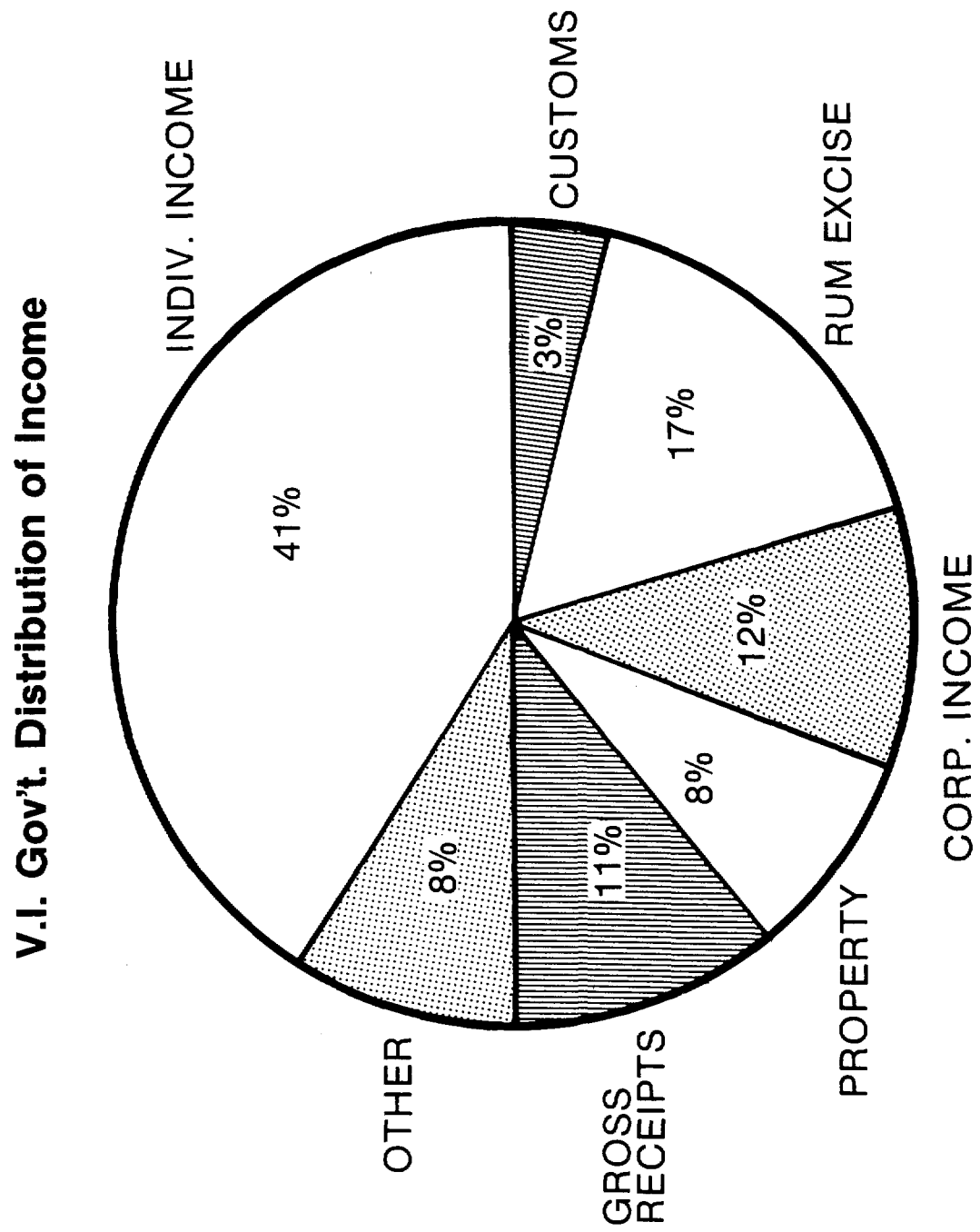
An inspection of this diagram reveals how fragile the present balance is, with 17 percent of the revenue being funded from rum excise taxes collected in the United States and returned to the Virgin Islands. The largest contributor, one which is far more stable, is the individual income tax, bringing in 41 percent of the revenue. Corporate income tax is third, with 12 percent.

The following subsections quantify the contribution of the four components of the economy which influence the Crown Bay development.

### 2.4.1 Hotels and Tourism (excluding the charter boat industry)

As the main source of revenue produced in the Virgin Islands (particularly on St. Thomas and St. John), tourism has been well researched and considerable knowledge exists as to its scale and contribution to the local economy. The industry is a primary and vital component of everyday life. Twenty-eight percent of the total employment on the island, and no less than 45 percent of all government jobs are supported by tourism. In 1983, St. Thomas residents each benefited by a tourist income of $3,084, exceeding all other islands in the Caribbean. (The per capita income for the Virgin Islands in 1982 was $7,078.)(1)

(1)Caribbean Tourism Research and Development Center




**V.I. GOVERNMENT DISTRIBUTION OF SOURCES OF INCOME (1981)**

SOURCE: V.I. Department of Commerce - Office of Policy & Planning.

FIGURE 2-7

Table 2-1 indicates that annual tourist expenditures appear to have doubled in eight years although the number of hotel rooms has not increased. Occupancy rates are not significantly different, and yet the number of tourists has increased by 6 percent; however, during 1976 to 1981, the consumer price index increased by 9.5 percent annually, whereas tourist expenditures increased by 9.9 percent. The conclusion which can be drawn from these statistics is that, by and large, the hotel industry has been stagnant during this period. (For comparison, the operating budget of the Virgin Islands has been increasing at a faster rate than these percentages.)

Table 2-2 shows the distribution of tourist destinations in the Caribbean over the 1970 to 1983 period. A number of points emerge from an inspection of this table. First, between 1980 and 1983, there has been a degree of stability, rather than growth, within the market area, both in terms of the distribution of tourists between destination and in the volumes themselves. Second, there is an almost quantum jump down from dominant destinations such as Puerto Rico and Bahamas, with Jamaica (ranked third in 1983) capturing only 47 percent of the tourists going to the Bahamas. Third, and more important with regard to the Virgin Islands' tourist industry, a 1 percent shift in Caribbean tourists to (or from) the Virgin Islands represents 70,000 persons, or a 20 percent increase (or decrease) in local (1983) tourist numbers. The market is thus vast, and is also not finite, as it has nearly doubled in the 1970 to 1983 period. To "fill" the 1,661 new hotel rooms now planned for St. Thomas, a 1½ percent shift in destinations would be required, or a real growth within the Caribbean of 2 million tourist arrivals annually, if the Virgin Islands retains its 5 percent share of the existing market. This latter scenario is less likely to occur within the period needed to build these new rooms(1).

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(1)Pobicki (Tourism in the U.S. Virgin Islands, September 1983) indicated that 1,000 new rooms could be required by 1995 to meet the demand projected from existing trend data; however, the nine companies planning the above-mentioned expansions (which would result in a total capital investment of $200 million) must have confidence that the new airport plans will be instrumental in bringing about the favorable conditions needed to attract these new visitors to the Virgin Islands.

Table 2-1

TOURIST TERRITORIAL INDICATORS
(All numbers listed in thousands except dollars)

| | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|
| Tourists | 325 | 340 | 379 | 427 | 448 | 380 | 343 | 340 | 346 |
| Visitors Air Arrivals | 455 | 468 | 524 | 591 | 619 | 525 | 475 | 470 | 478 |
| Cruises (Excursionists) | 451 | 488 | 515 | 548 | 603 | 691 | 695 | 586 | 633 |
| Hotel Rooms | 4.5 | 4.4 | 4.7 | 4.8 | 4.8 | 4.7 | 4.8 | 4.5 | 4.4 |
| Occupancy % | 52 | 48 | 62 | 74 | 75 | 64 | 57 | 58 | 60 |
| Tourist Expenditures $ (Millions) | 126 | 139 | 161 | 196 | 230 | 222 | 226 | 231 | 245 |
| Excursionist Expenditures $ (Millions) | 40 | 43 | 49 | 54 | 69 | 82 | 92 | 80 | 89 |

Sources: V.I. Labour Market Reviews and Office of Policy and Planning, D.O.C.

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Table 2-2

DISTRIBUTION OF TOURIST (STAYOVER) ARRIVALS IN THE CARIBBEAN[a]

| DESTINATION | 1970 RANK | 1970 # in 1000's | 1970 % | 1980 RANK | 1980 # in 1000's | 1980 % | 1981 RANK | 1981 # in 1000's | 1981 % | 1982 RANK | 1982 # in 1000's | 1982 % | 1983 RANK | 1983 # in 1000's | 1983 % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PUERTO RICO | 1 | 1088 | 26 | 1 | 1627 | 23 | 1 | 1573 | 23 | 1 | 1564 | 21 | 1 | 1530 | 21 |
| BAHAMAS | 2 | 891 | 21 | 2 | 1181 | 16 | 2 | 1031 | 15 | 2 | 1101 | 15 | 2 | 1200 | 16 |
| USVI | 3 | 372 | 9 | 5 | 380 | 4 | 6 | 344 | 5 | 6 | 340 | 5 | 5 | 350 | 5 |
| BERMUDA | 5 | 303 | 7 | 3 | 492 | 7 | 3 | 430 | 6 | 4 | 420 | 6 | 4 | 447 | 6 |
| JAMAICA | 4 | 309 | 7 | 4 | 395 | 5 | 4 | 406 | 6 | 3 | 467 | 7 | 3 | 566 | 7 |
| BARBADOS | 6 | 156 | 4 | 6 | 370 | 5 | 5 | 353 | 5 | 7 | 304 | 4 | 7 | 328 | 4 |
| ST. MAARTEN | 10 | 100 | 2 | 9 | 222 | 3 | 9 | 228 | 3 | 8 | 258 | 4 | 9 | 308 | 4 |
| DOMINICAN REPUBLIC | 13 | 63 | 1 | 8 | 301 | 4 | 7 | 340 | 5 | 5 | 341 | 5 | 6 | 340 | 5 |
| OTHERS | | 959 | 23 | | 2266 | 32 | | 2228 | 32 | | 2355 | 33 | | 2270 | 32 |
| TOTAL | | 4241 | 100 | | 7234 | 100 | | 6933 | 100 | | 7150 | 100 | | 7339 | 100 |

(a)"Tourist" is defined as a person staying at least one night ashore.

Source: Caribbean Tourism Research and Development Centre - June 1984

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Tables 2-3 and 2-4 show the gross expenditure from tourism in 1979 and the new hotel construction planned for St. Thomas, respectively.

### 2.4.2 Construction

Table 2-5 reflects the numbers of workers in the industry since 1975, together with the value of building permits issued. A regression analysis undertaken to test the correlation of these two indexes shows that there is no clear linkage between them, allowing the conclusion to be drawn that the value of permits does not reflect the amount of actual construction being undertaken, and that an unknown number of permits are not acted on through lack of funds or other reasons.

It is also clear from this table that the industry, though unstable in terms of employment, is a valuable component of the Virgin Islands' productive capacity and plays an important role in attracting outside capital to the islands. Available statistics do not permit a separation of investment being made in domestic and tourist structures.

### 2.4.3 Transportation

The contribution made to the Virgin Islands' economy by transportation employment is small but vital; however, the income generated does not reflect the real income accrued as a result of "foreign" fares, duties, taxes, dockage and capital investment in the industry. Pobicki found that stay-over tourists spent $2.8 million per annum on tours in 1981, and $8.2 million on rental cars(1). (By comparison, they spent $25 million on restaurant meals.) Cruise liner visitors spent an estimated $1.7 million on taxis during 1981, bringing the annual average "foreign" income for the industry to $12.7 million.

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(1)J. M. Pobicki, Tourism in the United States Virgin Islands, Office of Planning and Research, Virgin Islands Department of Commerce, May 1984.

Table 2-3

GROSS EXPENDITURES FROM TOURISM IN 1981

| Item | OVERNIGHTER Per Visit Average (U.S. $) | OVERNIGHTER Gross (U.S. $ million) | 1-DAY VISITOR Daily Average (U.S. $) | 1-DAY VISITOR Gross (U.S. $ million) | TOTAL (U.S. $ million) |
|---|---|---|---|---|---|
| Hotel | 359 | 112 | -- | -- | 112 |
| Meals | 74 | 23 | 6 | 4 | 27 |
| Nightclubs | 20 | 6 | -- | -- | 6 |
| Inter-island transport | 15 | 5 | -- | -- | 5 |
| Sport activities & rental | 12 | 4 | -- | -- | 4 |
| Taxis, tours & rental cars | 32 | 10 | 8 | 6 | 16 |
| Liquor | 17 | 5 | 23 | 16 | 21 |
| Duty-free & gifts | 105 | 32 | 55 | 38 | 70 |
| Other | 23 | 7 | -- | -- | 7 |
| TOTAL | 657 | 204 | 92 | 64 | 268 |

Source: Pobicki, Tourism in the United States Virgin Islands, May 1984

Table 2-4

NEW HOTELS

| LOCATION | PROPOSED # NEW ROOMS (1st Phase) | OPERATOR | STATUS |
|---|---|---|---|
| Pineapple | 270 | | Started 6/84 - To open 5/85 |
| Water Island | 100 | Owners | Opening 11/84 |
| Morningstar | 60 | Frenchman's Reef | Construction started |
| Green Cay | 164 | Not Confirmed | CZM and zoning approvals secured. Decision to proceed pending. |
| Sapphire Beach | 385 | Not Known | CZM application approved |
| Smith Bay | 310 | Possibly Hyatt | CZM application approved |
| Emerald Beach (Lindbergh Bay) | 191 | Carib Beach | CZM application being considered |
| Benner Cove | 149 | Not Known | CZM application being considered |
| Pelican Beach | 32 | Owners | Preliminary UDAG application |
| Total | 1,661 | | |

Source: McComb Engineering, 1984

Table 2-5

CONSTRUCTION INDUSTRIES

| | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|
| Employ (Thous.) | 4.5 | 2.8 | 2.5 | 2.4 | 2.8 | 3.5 | 3.5 | 3.3 | 2.4 |
| Aver. Wage (Annual) (Thous. $) | -- | -- | 10.4 | 9.9 | 11.9 | 14.1 | 15.4 | 16.9 | -- |
| Tot. Annual Wage Inc. (Mill $) | -- | -- | 26 | 23.8 | 33.6 | 49.7 | 54.2 | 55.7 | -- |
| Bldg. Permits (Mill $) | 28.2 | 30.7 | 43.2 | 41.3 | 73.1 | 103.1 | 62.7 | 58.4 | -- |
| Av. Price-House (Thous.) | 42.2 | 47.3 | 51.3 | 63.1 | 80.8 | 97.8 | 99.1 | -- | -- |
| Av. Price-Condo (Thous.) | 47.0 | 44.2 | 51.2 | 47.7 | 60.9 | 92.0 | 98.1 | -- | -- |
| Increase in Real Prop Tax | -- | -1.7 | +3.0 | -- | +3.1 | 1.4 | 6.5 | 4.0 | -- |

Source: V.I. Department of Commerce
Office of Policy and Planning

H-14/pp

### 2.4.4 Retail

Table 2-6 lists the distribution of retail outlets in the Virgin Islands and Charlotte Amalie. For the Virgin Islands as a whole, the annual sales from food and drink and tourist-oriented outlets represented 63 percent of the total of $489 million in 1982, whereas the payroll in these industries made up 48 percent of the total $57.9 million. Charlotte Amalie accounts for 45 percent of the retail sales in the Virgin Islands, and 64 percent of tourist-oriented retail trade, indicating its dominance as the retail center in the Virgin Islands.

H-14/ff

Table 2-6

DISTRIBUTION OF RETAIL TRADE - 1982

| TYPE OF RETAIL STORE | NO. OF STORES | ANNUAL SALES & RECEIPTS ($1,000) | ANNUAL PAYROLL ($1,000) |
|---|---|---|---|
| Virgin Islands | | | |
| Building Mat. & Hardware | 1,191 | 489,223 | 26,512 |
| Food | 164 | 129,754 | 9,504 |
| Auto | 105 | 74,344 | 6,111 |
| Eat & Drink | 295 | 42,164 | 8,377 |
| Tourist | 317 | 148,400 | 19,422 |
| Other | 276 | 76,213 | 12,169 |
| Total | 1,191 | 489,223 | 57,875 |
| Charlotte Amalie | | | |
| Building Materials & Hardware | 5 | -- | -- |
| Food | 41 | 45,254 | 3,318 |
| Auto | 18 | 14,485 | 1,188 |
| Eat & Drink | 96 | 14,241 | 2,876 |
| Tourist | 158 | 109,228 | 13,392 |
| Other | 122 | -- | -- |
| Total | 440 | 219,801 | 26,512 |

Source: 1982 Economic Censuses of Outlying Areas, U.S. Department of Commerce.

H-14/qq

Section 3
MASTER PLAN ELEMENTS

## 3.1 CRUISE INDUSTRY

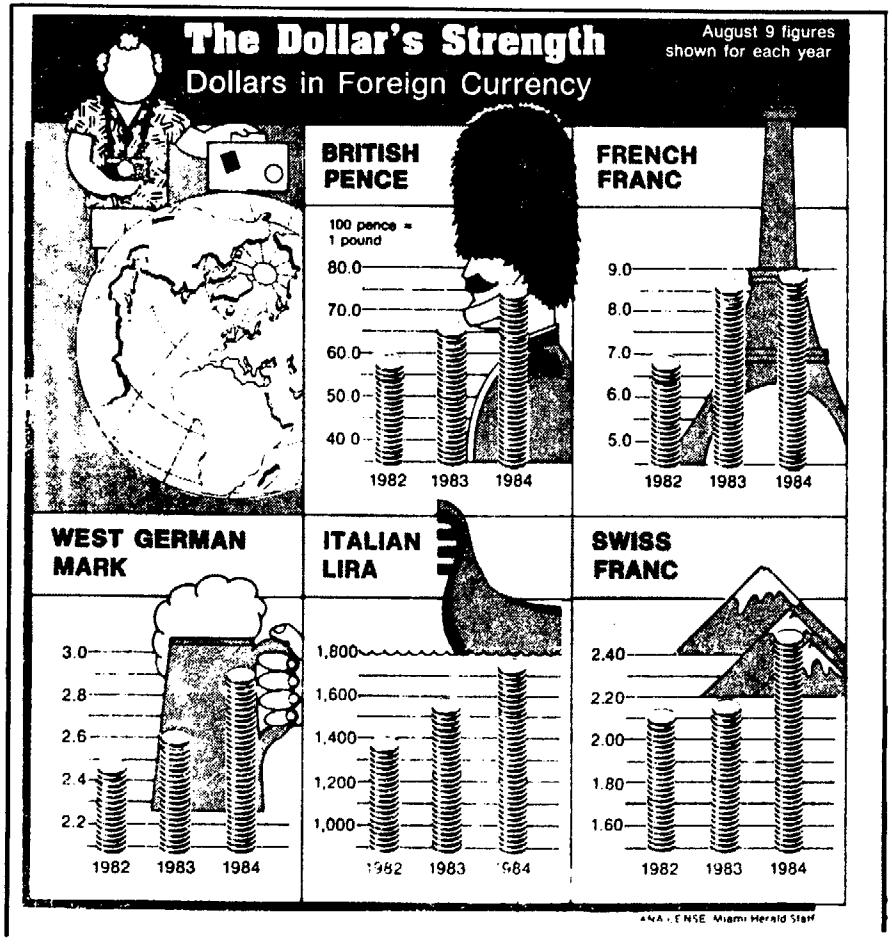
### 3.1 Cruise Passengers

The cruise lines have a positive and generally optimistic outlook concerning the future growth of the industry. Interviews (see Addendum 1) confirm this. Overall growth of the industry does not, however, necessarily mean sustained and rapid growth for St. Thomas. The strong position of the U.S. dollar in regard to European currency (see Figure 3-1) has made cruises to Europe attractive and impacts upon the number of Caribbean cruise tourists.

Table 3-1 lists the top ten Caribbean countries, in terms of cruise passenger arrivals, spanning the last seven years. Figure 3-2 focuses on the changing position of the Virgin Islands within the top five countries. From this information, it becomes apparent that the strong efforts of the Bahamas to attract cruise tourists has paid off. From third place in 1978, they have overtaken the Virgin Islands in 1981/1982 and now hold a solid first place position. Their growth over the seven-year period was approximately 100 percent. Virgin Islands growth over the same period was approximately 18 percent, declining from first place in 1978 to second place by 1984.

Puerto Rico showed a negative growth of 8 percent, declining from second place in 1978 to third place by 1984; however, in the next few years, Puerto Rico will become a strong rival for second place, having recently completed a new cruise terminal and other major port improvements directed to the cruise trade. Additionally, Federal legislation revising the Jones Act permits foreign flag vessels to sail between Puerto Rico and other U.S. ports, a status previously enjoyed by the Virgin Islands only. It is estimated that this change could increase cruise visitors to Puerto Rico by 81,000 passengers per year.

A further impact on Virgin Islands cruise passengers is posed by recent U.S. Customs Service proposals to amend the regulations governing the




# Strengthened dollar spurs vacation exodus to Europe

*Herald staff and wire reports*

NEW YORK — When Barbara Rittenberg went to Europe 27 years ago, she hitchhiked through Scandinavia and traveled the Continent on a third-class Eurail pass. Then 20, Rittenberg spent nights in hostels and inexpensive hotels. Her daily diet was mostly bread and cheese.

This month Rittenberg, a housewife married to a successful psychiatrist, will go to Europe in different style. She and her husband plan to spend two weeks climbing mountains in Switzerland, with a luxury hotel near St. Moritz as home base. And this time, she said, "We'll take the bread and cheese on our hikes."

The Rittenbergs are among millions of Americans traveling overseas this summer, staging an exodus of unprecedented proportions and living it up a bit thanks to an extraordinarily strong U.S. dollar.

Europe is particularly popular. The European Travel Commission, made up of 23 Western European tourist boards, is making what it calls a "conservative" estimate that 5.5 million Americans will travel to Europe this year — 15 percent more than last year's record rate of 4.8 million.

Simple economics has played a key role in the travel boom. The American dollar is up, air fares are down, and the U.S. recovery is strong.

A dramatic improvement in the U.S. economy has put overseas vacations within reach of many people who for years have put travel plans on hold.

Meantime, the dollar has nearly doubled in value against the French franc and British pound in the last four and a half years, and has appreciated by about 65 percent against the German mark since 1979.

On Thursday, however, the dollar retreated broadly on international exchanges. The new report on the lowered money supply and consequent expectation of lower interest rates spawned the retreat. Late dollar rates in New York on Thursday were: 2.8805 West German marks, down from 2.9042; 242.10 Japanese yen, down from 243.52; 2.4240 Swiss francs, down from 2.4480; 1.3068 Canadian dollars, unchanged; 8.8575 French francs, down from 8.9190.

Yet with the dollar hovering around historical highs, an air-fare war on transatlantic routes has produced incredible bargains, with round-trip tickets between New York and London going for as low as $318 on People's Express.

Although fares are not that low out of Miami, British Airways reported average passenger loads of 85 percent last week.

"Sales in the Americas are 25 percent ahead of last year," said British Airways spokesman John Lampl. He said the carrier's Boeing 747s had 362

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**DOLLAR** / *from 1E*

of 385 seats filled last Saturday, with 358 filled last Friday.

The lower prices have not come because the airlines are suffering. American Airlines, which operated one flight a day between Dallas and London last summer, has nearly doubled its number of flights this year "to take advantage of the strong bookings." Planes are flying more than 80 percent full. British Airways' advance bookings are up by 26 percent and Air France's, by 23 percent. Trans World Airlines expects its transatlantic traffic to grow by at least 15 percent for all of this year.

"In past years, many Americans traveled within this country," said a spokesman for the U.S. Travel Service, which promotes foreign travel into this country. "Europe was considered too glamorous, something the middle-income American family would never consider. Now some overseas destinations are cheaper than some domestic travel. Europe has become affordable and realistic."

He said 281,289 passports were issued through May, the latest month for which figures were available.

According to the U.S. Consular Service, which issues passports, applications have soared since March and the agency now expects to issue 4.7 million passports this year, after a record 4.1 million last year.

In Miami, the number of passports issued between October and May was up 16.9 percent over the same period in the government's fiscal year 1983.

By comparison, the number of foreigners coming to the United States has leveled off, with an expected 3 percent increase over last year for a total of 25 million persons, according to the U.S. Travel and Tourism Administration. They spent an estimated $13.8 billion.

Travel abroad has been so heavy that some Americans may be forced to put off their plans until 1985. Tours offered by American Express are almost sold out, according to Ballou

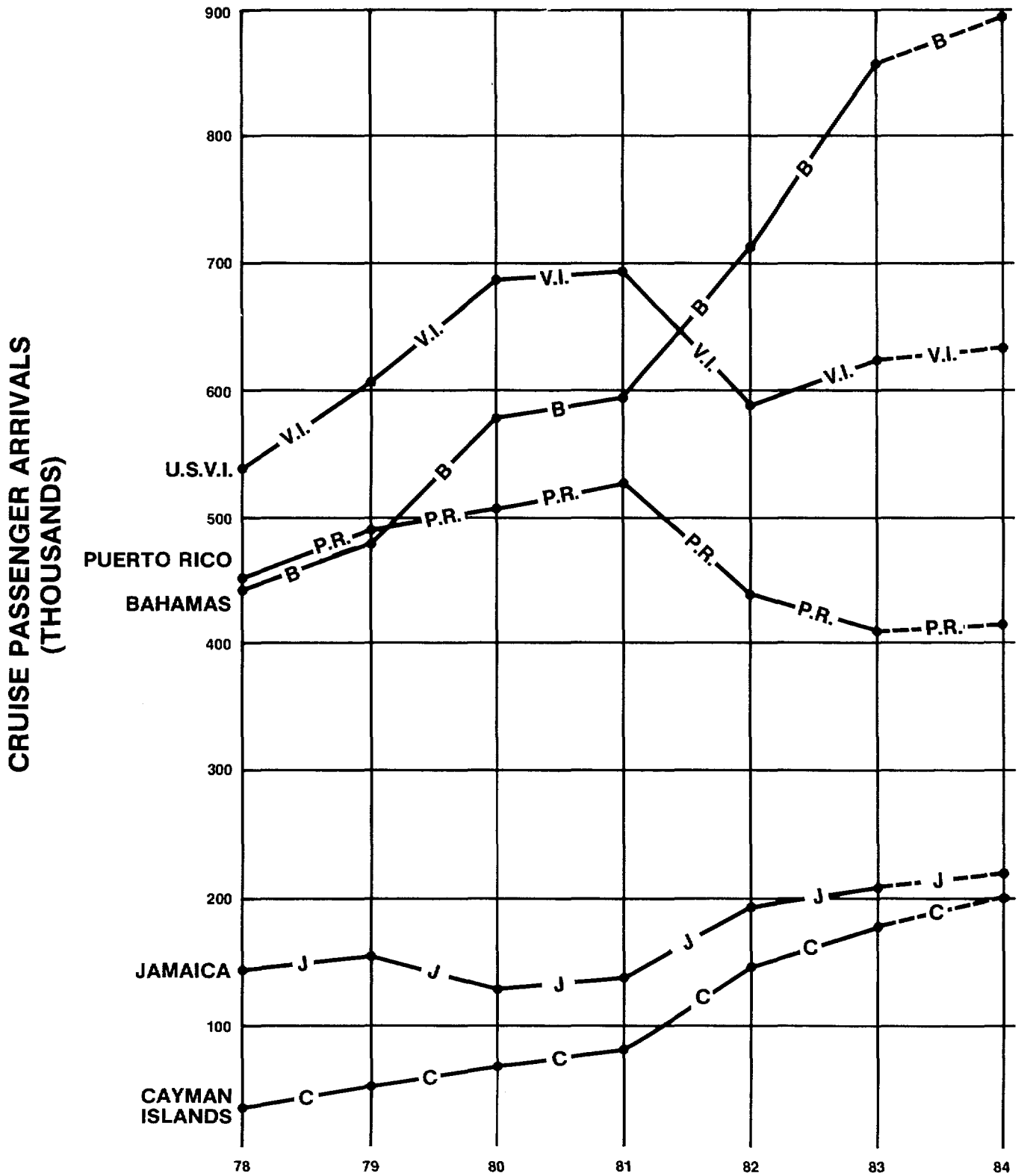
FIGURE 3-1

Table 3-1

TOP TEN CARIBBEAN COUNTRIES IN CRUISE PASSENGER ARRIVALS

| Ranking | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 Estimated |
|---|---|---|---|---|---|---|---|
| 1 | U.S. V.I. | U.S. V.I. | U.S. V.I. | U.S. V.I. | Bahamas | Bahamas | Bahamas |
| 2 | Puerto Rico | Puerto Rico | Bahamas | Bahamas | U.S. V.I. | U.S. V.I. | U.S. V.I. |
| 3 | Bahamas | Bahamas | Puerto Rico | Puerto Rico | Puerto Rico | Puerto Rico | Puerto Rico |
| 4 | Haiti | Dom. Rep. | Martinique | Martinique | Jamaica | Jamaica | Jamaica |
| 5 | Curacao | Martinique | Dom. Rep. | Dom. Rep. | Martinique | Cayman Isl. | Caymen Isl. |
| 6 | Dom. Rep. | Curacao | Curacao | Jamaica | Caymen Isl. | Martinique | n/a |
| 7 | Jamaica | Haiti | Haiti | Barbados | Dom. Rep. | n/a | n/a |
| 8 | Martinique | Jamaica | Barbados | Curacao | Bermuda | n/a | n/a |
| 9 | Bermuda | Bermuda | Grenada | Antigua | Curacao | n/a | n/a |
| 10 | Barbados | Grenada | Jamaica | St. Maarten | Barbados | n/a | n/a |

Reference: Caribbean Tourism Research and Development Centre




## CARIBBEAN CRUISE TOURIST ARRIVALS

REF. CARIBBEAN TOURISM RESEARCH & DEVELOPMENT CENTER

FIGURE 3-2

transportation of passengers on foreign flag vessels between U.S. ports. Over 90 percent of all cruise vessels sail under foreign flag and are now limited to less than 24-hour stays at U.S. ports when their initial embarkation point was another U.S. port. The exception to this is the Virgin Islands. The concern of Customs is that ports in Alaska, Florida, Puerto Rico, and California are at a disadvantage in competing with foreign ports for cruise ship business.

Complacency could permit a decline from the second place position that the Virgin Islands holds. The nature of the development of the St. Thomas, Crown Bay Cruise Port will be a key element in strengthening and securing its present advantage.

Figure 3-3 indicates increasing numbers of St. Thomas cruise passengers from 1978 to 1981. Reflecting the U.S. economy, passengers declined from 645,000 in 1981 to 579,000 in 1982(1) and picked up only slightly to 593,000 in 1983. The U.S. economy showed a strong upsurge in 1983 and has sustained itself through 1984. This improvement would imply an upsurge in 1984 cruise passengers to St. Thomas, yet an estimate of total 1984 passengers indicates that passengers will not exceed 605,000. This disparity could be explained as a local impact of the strong dollar abroad. The growth rate from 1978 to 1984 is approximately 1 percent per year. The strong dollar impact will pass; however, the 1 percent growth rate must be recognized as a pertinent factor in growth forecasting, especially for land use and port planning.

Figure 3-4 displays cruise passengers to St. Thomas from 1950 to 1983. Also shown is the Arthur D. Little, Inc. 1980 forecast growth from 1980 through 1984. Little forecasts 800,000 passengers in 1984, as compared with an estimated figure of approximately 605,000. Facilities planned for the Crown Bay area should recognize that forecasts of 1.5 million cruise passengers by the year 1999 are somewhat optimistic. The rapid growth rate from 1950 through 1980 could now be peaking and a slower, more conservative growth starting. For planning purposes, a 1 percent growth rate indicates 730,000 cruise passengers by the year 2000, based on 1980 figures.

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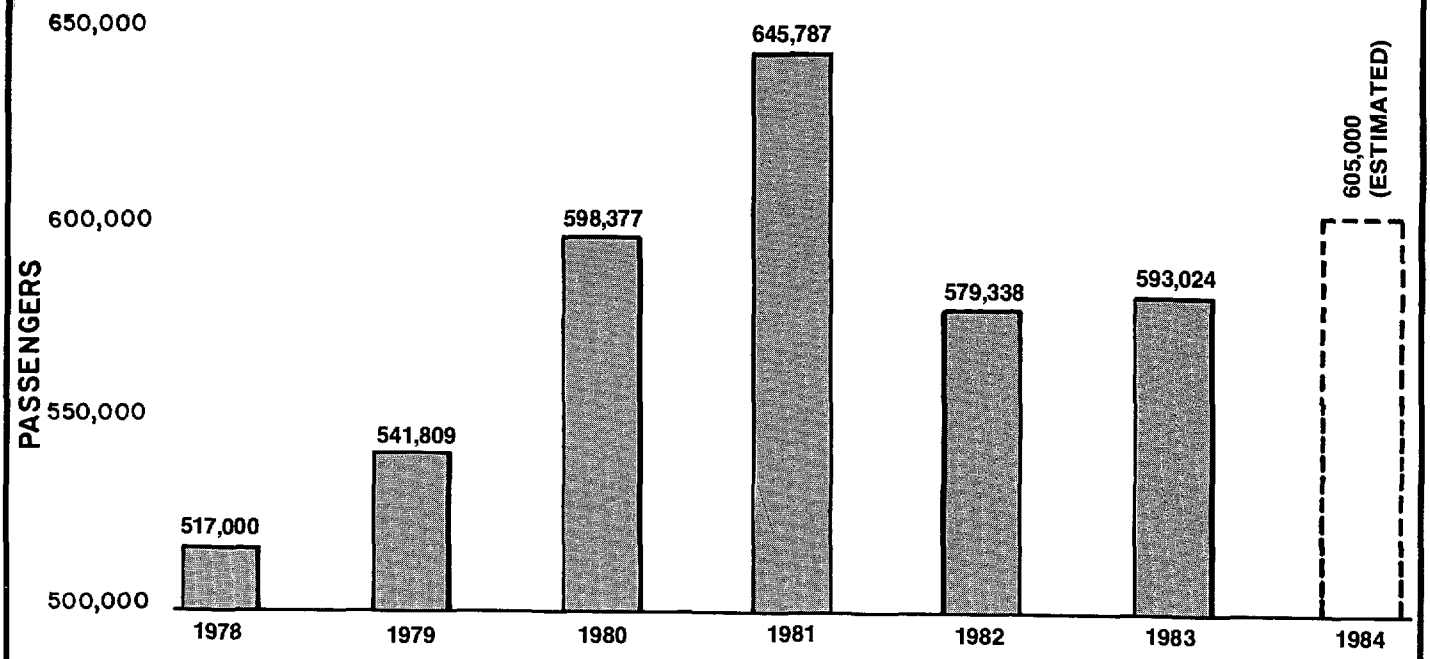
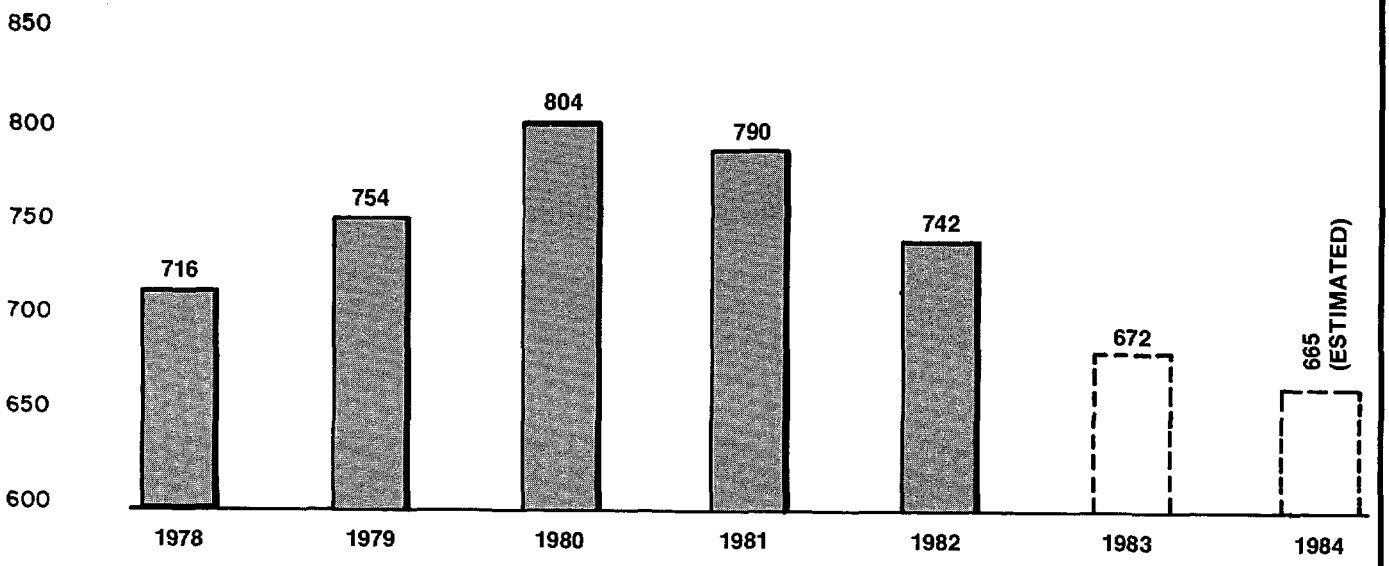
(1) Virgin Islands Port Authority.

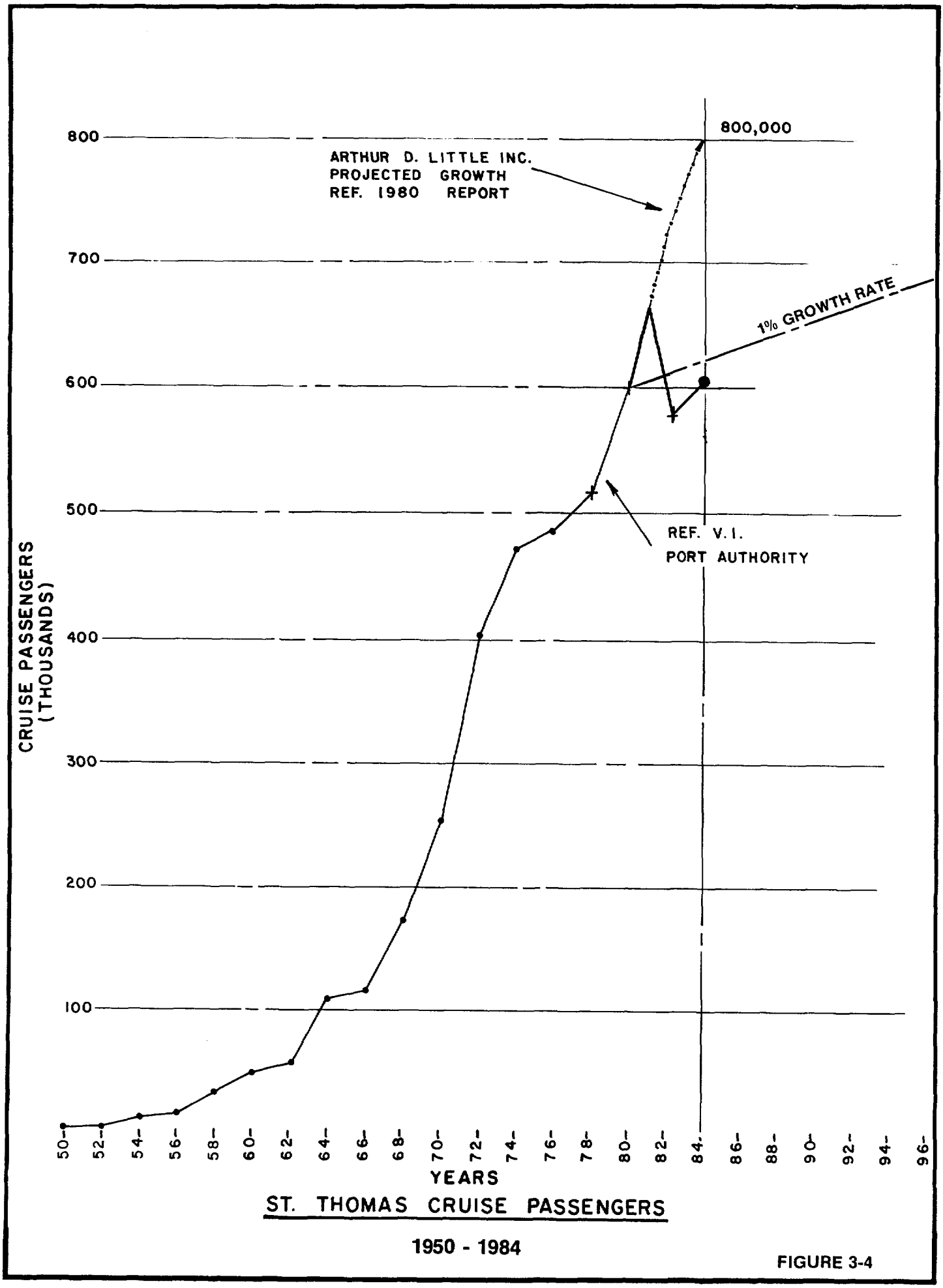



**CRUISE PASSENGERS,**
**ST. THOMAS**
REF. V.I. PORT AUTHORITY




**CRUISE SHIP CALLS TO ST. THOMAS**
REF. V.I. PORT AUTHORITY

FIGURE 3-3




ST. THOMAS CRUISE PASSENGERS

1950 - 1984

FIGURE 3-4

St. Thomas saw 645,000 passengers in 1981 and under the 1 percent growth assumption, will not see that number again until 1988. It would be erroneous to conclude that 1981 facilities should, therefore, be adequate until 1988. St. Thomas is an attractive port of call, not only because its facilities are "adequate," but also because they are substantially better than other islands. This position is constantly being challenged by major upgrading of cruise facilities in other port of calls such as San Juan and Curacao. To maintain its preferred status and foster a sustained growth, St. Thomas must now prepare for the increase in cruise tourists, no matter what the growth rate is.

### 3.1.2 Cruise Vessels

Figure 3-3 indicated the number of cruise vessel calls to St. Thomas. The numbers have declined, from 804 in 1980 to approximately 665 in 1984, an 18 percent decrease. During the same period, passengers decreased by only 7 percent. Cruise lines have modified many of their vessels, and have added more passenger-efficient vessels to their fleets. The average number of passengers per vessel has increased from 722 in 1978 to over 800 in 1984, indicating that fewer vessel calls will maintain the same passenger count.

As an example, the 1980 vessel count was 804, with an average of 704 passengers per vessel. If the average number of passengers per vessel was 800 (as in 1984), the vessel count would have been 748, or 7 percent less.

### 3.1.3 Cruise Line Data

Table 3-2 shows vessels visiting St. Thomas, while Table 3-3 summarizes St. Thomas cruise vessel statistics.

### 3.1.4 Conclusions

Assuming an average of 800 passengers per vessel, and using a 1 percent passenger growth rate, based on the 1980 V.I.P.A. count, the forecast number of passengers and vessel calls would be:

Table 3-2

VESSELS VISITING ST. THOMAS

| Cruise Line | Vessel | Passenger Capacity |
|---|---|---|
| Carnival | TSS Carnival | 950 |
| | TSS Festivale | 1,148 |
| | TSS Mardi Gras | 906 |
| | MS Tropicale | 1,022 |
| | Holiday (new) | 1,800 |
| Chandris, Inc. | SS Amerikanis | 650 |
| | SS Britanis | 1,200 |
| | SS Victoria | 500 |
| Commodore | MS Boheme | 500 |
| | MS Caribe | 1,200 |
| Clipper | Newport Clipper | 100 |
| Costa | MS Carla C | 748 |
| | MTS Danae | 465 |
| | MTS Daphne | 503 |
| | MS Renaissance | 528 |
| | TS Federico C | 700 |
| | TS Enrico C | 420 |
| Cunard | QE 2 | 1,815 |
| | Countess | 750 |
| Holland American | SS Rotterdam | 1,111 |
| | SS Veendam | 713 |
| | SS Volendam | 717 |
| | Noordam (new) | |
| Home Lines | SS Atlantic | 1,069 |
| | SS Oceanic | 1,035 |
| | SS Doric | 725 |
| Norwegian American Cruises | MS Sagafjord | 500 |
| | MS Vistafjord | 700 |
| Norwegian Caribbean Lines | SS Norway | 2,000 |
| | MS Skyward | 724 |
| | MS Southward | 730 |
| | MS Starward | 740 |
| | MS Sunward, II | 690 |
| Paquet French Cruises | SS Dolphin | 565 |
| | MS Mermoz | 550 |
| | Rhapsody | 800 |
| Princess Cruises | Island Princess | 600 |
| | Sun Princess | 700 |
| Royal Caribbean Cruise Lines | Nordic Prince | 1,038 |
| | Song of Norway | 1,040 |
| | Sun Viking | 728 |
| | MS Song of America | 1,414 |
| Royal Cruise Line | Golden Odyssey | 460 |
| | Royal Odyssey | 806 |
| Royal Viking Line | Royal Viking Star | 534 |
| | Royal Viking Sky | 535 |
| Sitmar Cruises | TSS Fairsea | 925 |
| | TSS Fairwind | 925 |

Table 3-3

ST. THOMAS CRUISE VESSEL STATISTICS

| | Total Calls (1) | Docked @ WICO[a] (2) | Total Passengers (1) | WICO Passengers (2) |
|---|---|---|---|---|
| 1979 | 754 | 546 | 541,809 | N/A |
| 1980 | 804 | 607 | 598,377 | 406,720 |
| 1981 | 790 | 613 | 645,787 | 427,930 |
| 1982 | 742 | 568 | 579,338 | 394,910 |
| 1983 | 672 | 554 | 593,024 | 438,234 |

---

(a) Vessels at anchor, rather than berthed at West Indian Company docks, were due to vessel draft or full WICO occupancy, and numbered from 100 to 200 per year.

References:

(1) V.I.P.A.
(2) WICO

| Year | Passengers (thousands) | Vessels |
|---|---|---|
| 1986 | 634.8 | 793 |
| 1988 | 647.5 | 809 |
| 1990 | 660.6 | 826 |
| 1992 | 673.8 | 842 |
| 1994 | 687.4 | 859 |
| 1996 | 701.1 | 876 |
| 1998 | 715.3 | 894 |
| 2000 | 729.6 | 912 |

Based on historical data from the West Indies Company (WICO), WICO accommodates approximately 75 percent of vessel calls, when the total calls are in the 800 per year range. Assuming maximum WICO peak berthing is approximately 620 vessels per year, then the potential annual impact on the Crown Bay area and the new cruise berth would be:

| Year | Total Vessel Calls | WICO Berthed | Crown Bay Berthed | Crown Bay Passengers (thousands) |
|---|---|---|---|---|
| 1986 | 793 | 595 | 198 | 158.4 |
| 1988 | 809 | 607 | 202 | 161.6 |
| 1990 | 826 | 620 | 206 | 164.8 |
| 1992 | 842 | 620 | 222 | 177.6 |
| 1994 | 859 | 620 | 239 | 191.2 |
| 1996 | 876 | 620 | 256 | 204.8 |
| 1998 | 894 | 620 | 274 | 219.2 |
| 2000 | 912 | 620 | 292 | 233.6 |

These estimates are based on the following assumptions:

- Majority of vessels arriving on Wednesday and Thursday
- All vessels not berthed by WICO would utilize Crown Bay berths
- WICO does not add new berths.

For land use and planning purposes, it can be concluded that cruise vessel calls in the Crown Bay facility will approximate 300 vessels per year by the year 2000 and the area will see over 200,000 cruise passengers per year.

Using the WICO docks as a guide (in 1983, WICO handled 483,000 passengers), the Crown Bay Cruise Port area should incorporate adequate facilities including:

- o Shops
- o Restaurants
- o Access to the marina
- o Access to the Water Island Ferry.

The V.I.P.A. master plan (see Figure 3-5) designates commercial tourist-related areas that are substantially lesser in extent than WICO's similar facilities. The validity of the plan is substantiated by the forecast numbers of cruise tourists who will use the area (approximately 200,000 by the year 2000). To supplement the V.I.P.A. plan, a promenade should be extended to the planned marina facility so that tourist and local populations will have pleasant access to existing and future restaurants and shops.

The V.I.P.A. plan includes two dedicated cruise berths and one additional berth which could be used to berth cruise vessels. The practical maximum berth utilization for the three berths is 226 berthings per year, based on the following assumptions:

- o One-third of cruises are year-round
- o Two-thirds of cruises occur in 7/12 of the year
- o Cruise visits occur two days per week.

Two hundred twenty-six berthings per year is a conservative number. If cruise visits occurred 3 days per week, then the practical maximum berth utilization would increase to 339. This figure is based on berth utilization, adjusted for seasonality, as follows:

| | | |
|---|---|---|
| 3 x 365 x 1/3 x 12/12 = | | 365 |
| 3 x 365 x 2/3 x 7/12 = | | 426 |
| | TOTAL = | 791 |

Maximum utilization of 2 days/week:
2/7 x 791 = 226
Maximum utilization of 3 days/week:
3/7 x 791 = 339

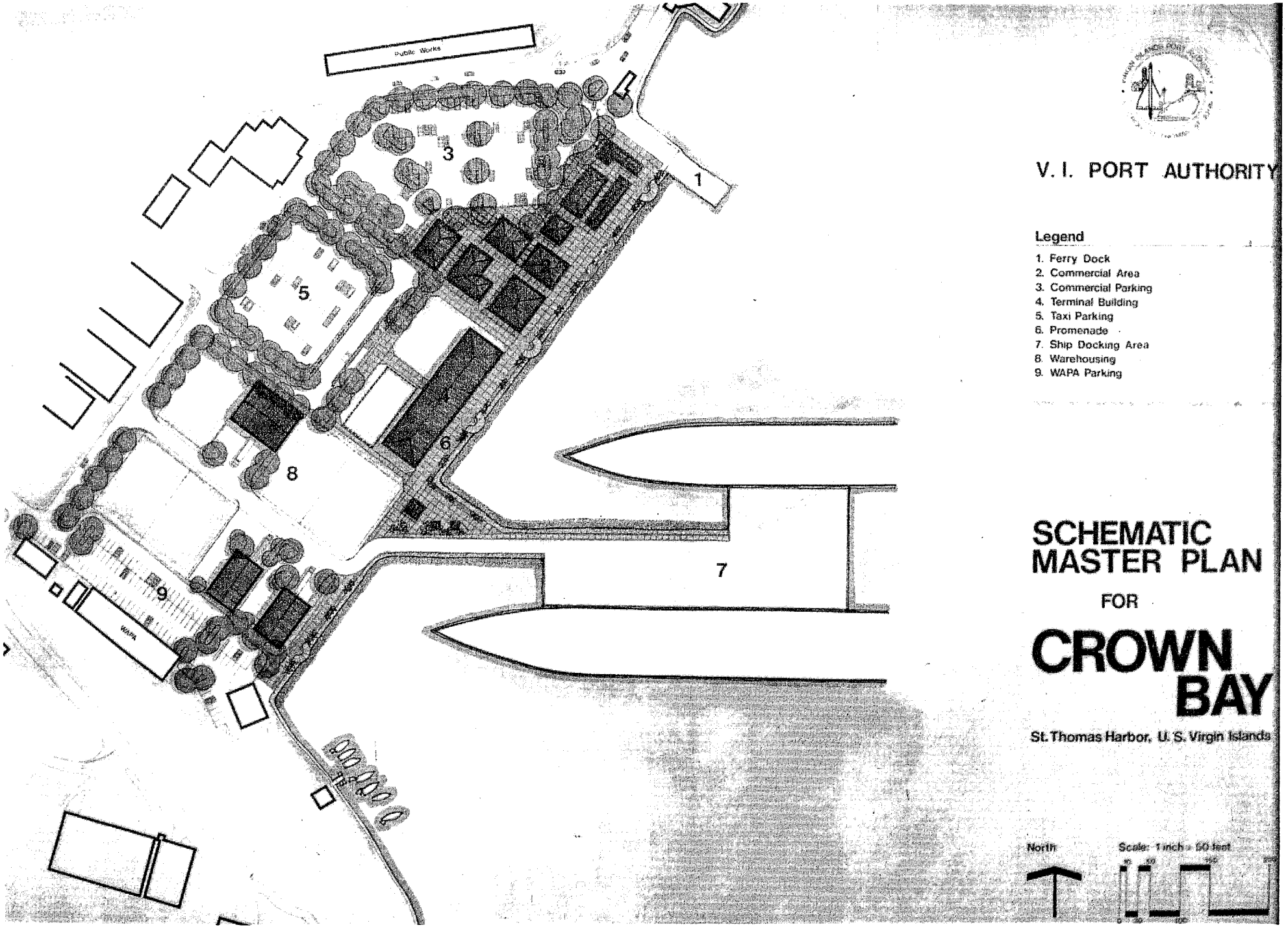

Public Works
1
3
4
5
6
7
8
9
WAPA
V. I. PORT AUTHORITY
Legend
1. Ferry Dock
2. Commercial Area
3. Commercial Parking
4. Terminal Building
5. Taxi Parking
6. Promenade
7. Ship Docking Area
8. Warehousing
9. WAPA Parking
SCHEMATIC MASTER PLAN
FOR
CROWN BAY
St. Thomas Harbor, U. S. Virgin Islands
North
Scale: 1 inch = 50 feet

FIGURE 3-5

The variance in berth utilization indicates the sensitivity of these numbers and also indicates that the V.I.P.A. plan is capable of handling the forecast berthings of 292 vessels by the year 2000.

### 3.1.5 Crown Bay Home-port Potential

Home-porting of a vessel provides a strong uplift to the local economy. Port Canaveral, Florida became the home-port for the Premier Cruise Lines vessel, the Star/Ship Royale. The port estimated the impact to the local economy to be in the $12 million a year range and expects a $500,000 yearly increase in revenue for dockage, wharfage, and other related services. While these numbers are somewhat optimistic, they do indicate the order of magnitude of the home-port impact and the basic reason for its importance.

#### 3.1.5.1 Infrastructure

The potential for home-porting is dependent on the infrastructure which supports it and makes it economically viable. The basic elements of the infrastructure are:

- Air capacity
- Utility availability
- Bunkering.

#### 3.1.5.2 Air Capacity

A key element in home-porting is the air connection link by which the tourist is brought to the home-port. For mini-cruise operators, the existing airport and airline service are sufficient to supply the 100 to 200 passengers that they accommodate. The existing airport is substandard and, until the runway is extended (scheduled for 1988 completion), the airport cannot effectively accommodate larger, more fuel efficient jets. Eastern Airlines has plans to provide direct service from Atlanta and New York once the airport is complete. This sort of service will help provide the impetus that the large cruise lines require before they would consider home-porting in St. Thomas (see Addendum

1, Cruise Line Interviews). The key, therefore, to consideration of home-porting by cruise lines is completion of the airport, and an adequate volume of scheduled flights from varied origins. Since plans for such completion are slated for 1988, air service and air capacity can be considered as being possible in the near future.

3.1.5.3 Utility Availability

Utilities are a key element of the infrastructure requirements for home-porting. The availability of the basic utilities at Crown Bay is as follows:

- Water Supply - Three new desalinization plants are in operation and producing 3.75 million gallons per day. An additional capacity of 1.65 million gallons is now planned. Water supply, assuming adequate pipe mains, should prove to be no problem in the development of Crown Bay; however, the cost of water is of prime importance to the cruise line.

- Power - Electricity is readily available; however, it is expensive and periodic outages make the vital service a restraint to development. Both the entrepreneur and the light industrialist cannot accept interruptions of the lighting, air conditioning, refrigeration, etc. Such disruption reduces profitability of any service or business. The physical supply of power is not a problem due to the proximity of Crown Bay to the power plant and main power lines; however, a reliable power source is required to maintain the refrigerated storage necessary in a home-port operation.

- Wastewater - Sanitary sewage from the area is municipally treated and basically poses no problem to home-port operations.

3.1.5.4 Fueling

The ability to bunker a home-ported vessel is of great advantage to a cruise line. Since St. Thomas will shortly offer such services, this factor becomes

positive. The cost of fueling, however, must be less expensive then other sources and at least as reliable. Cruise lines are good customers and, when the service is available, it becomes possible for contracts to be drawn which are advantageous to all parties. Bunkering is discussed in detail in Section 3.3.

3.1.5.5 Ports of Call from St. Thomas

Addendum 2 contains diagrams showing the various Caribbean cruise routings. It can be seen that St. Thomas is a natural location for one-week eastern cruises, one-week western cruises, two-week eastern/western cruises and numerous two- and three-day cruise potentials. One of the major considerations for cruise company route planning is fuel/cost efficiency. Routing from St. Thomas is within accepted standards and additionally could offer Miami as an overnight port of call on longer cruises.

3.1.5.6 Support Services

The basic support services required for a home-port operation are crew accommodations and provisioning. The cruise ship is basically a floating hotel and extensive outside accommodations are not required. Analysis of hotels indicates a surplus of generally available rooms. These rooms would be sufficient to accommodate the transient requirement involved, but most of the existing accommodations are either unattractive or inconvenient to Crown Bay. A new hotel in the area would be a decided advantage for home-porting.

Of highest concern to a cruise line is the cost of provisioning. These costs fall into three categories:

- Marine (engine and deck)
- Catering (food and beverage)
- Steward services (hotel and housekeeping).

The lines have a preference for using many suppliers and undoubtedly a certain amount of goods would be purchased locally; however, it may also be

assumed that the majority of provisions required would be shipped to St. Thomas from the cruise line's distribution agents. Shipping costs and the desirability of regular and direct services from the U.S. as well as the requirement for warehouse area and container storage area are important home-port factors. The cruise lines themselves generally do not own or maintain warehouses, but rely on a constant feed from their suppliers. Tropical Shipping, Inc. has indicated an interest in providing such a service on the new land being made available in Phase 2A.

The cost of provision will be a major consideration in determining the economic feasibility of home-porting a major cruise line vessel. Since direct and regular service is now available from U.S. ports to St. Thomas, provisioning is feasible.

3.1.5.7 Home-porting Conclusions

Home-porting of a major cruise line vessel depends on:

- o Completion of the airport expansion and the adequacy of the resulting scheduled flights
- o Reasonable cost of water
- o Reliable power supply
- o Reasonable cost of bunkering
- o Availability of attractive ports of call from St. Thomas
- o Availability of accommodations
- o Cost-effective provisioning.

Of these seven items, all can be considered positive reasons for home-porting mini-cruise ships. For these larger vessels, provisioning will remain an important factor, which will be of primary concern to the cruise lines.

Larger ships accommodating 500 plus passengers will need an expanded, scheduled air service to make home-porting in St. Thomas feasible.

Thus berthing for a home-port vessel should be a consideration for future expansion potential. The vessel should be in proximity to the new cruise

facilities. The impact will be a reduction in berthing potential of visiting cruise vessels as well as cargo vessels, unless space allocation is initially designed for this element.

## 3.2 SHIPPING AND CARGO OPERATIONS

### 3.2.1 Cargo Projections

Cargo coming through the Virgin Islands is reported to U.S. Customs by the shipping agent; U.S. Customs reports those data to the V.I.P.A. for the determination of fees; and V.I.P.A. uses the figures received as the basis of statistical data for its annual report. Additionally, U.S. Customs forwards data to the U.S. Department of Commerce, Office of Statistics, Census Division, which prepares an annual report of Virgin Island shipments from the United States. The report does not break down the shipments by island and, additionally, reports numbers substantially greater than those reported by V.I.P.A.

The 1983 Commerce Report indicates shipments of 901,165 tons from the U.S. alone. V.I.P.A. reports 593,536 tons of U.S. and foreign cargo in 1983. For planning purposes for the Crown Bay area, neither source can be accepted as the sole source to establish a trend. V.I.P.A. numbers alone would produce a low projection and Commerce numbers alone would produce artificially high throughput projections.

A realistic projection of cargo is required to produce the basis for land use in the Crown Bay area. Therefore, the following factors are addressed to establish such projection:

- Cargo due to cruise passengers
- Cargo due to island use
- Container throughput.

#### 3.2.1.1 Cargo Vs. Cruise Passengers

It has been established that the St. Thomas economy is tied to tourism in

general, which is cyclic in nature and based on the U.S. economy. Analysis of V.I.P.A. figures from 1978 through 1983 substantiates this. Figure 3-6 illustrates that the annual vessel cargo growth over the five year period was 3.4 percent, closely tracking cruise passenger growth, over the same period, which was 2.7 percent. This relationship implies that cargo throughput will grow in relation to cruise passenger growth and substantially at the same rate, since both are based on the U.S. economy. For planning purposes, Section 3.1 establishes a passenger growth rate of 1 percent per year. Therefore, it could be assumed that cargo growth due to passenger growth will be no less than 1 percent per year.

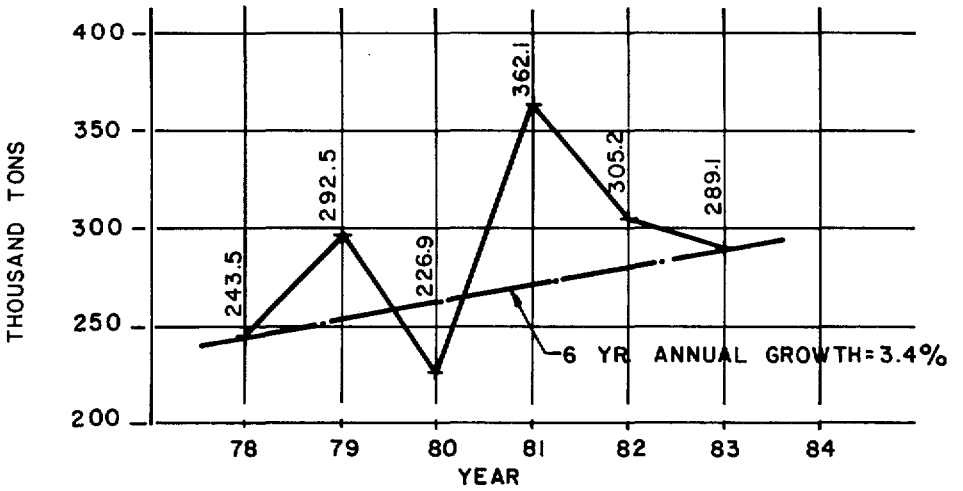
#### 3.2.1.2 Local Cargo

Determination of exactly how much cargo throughput is required locally and independent of tourism is beyond the scope of this study; however, it would be simplistic to assume that the 1 percent growth tied to tourism includes all local use. "Local" use, defined as internal St. Thomas consumption, new construction and transshipment, is a factor that should be applied in addition to tourist-related growth.

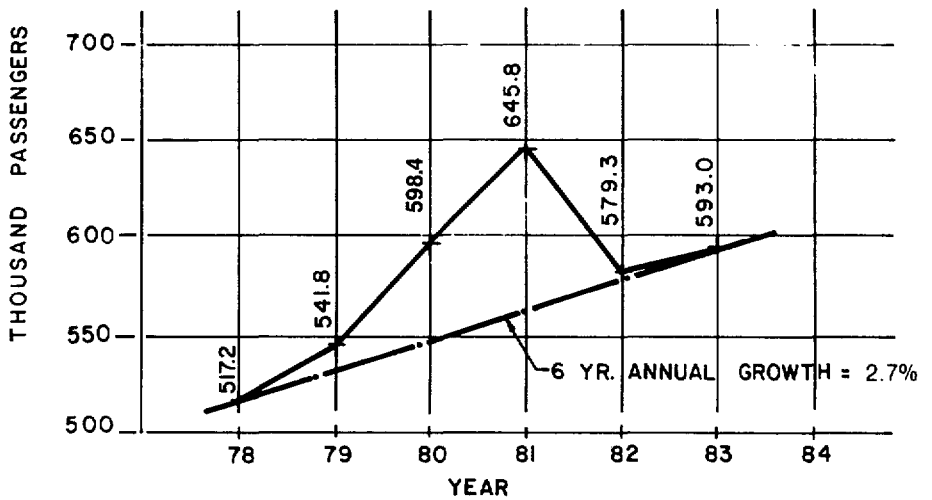
#### 3.2.1.3 Container Throughput

Approximately 70 percent of cargo throughput is containerized and includes tourism-related, local use, and transshipment cargo. Tropical Shipping is the major handler of containerized cargo in St. Thomas, handling approximately 75 percent of the container throughput. In 1983, Tropical throughput was 18,767 TEU (total equivalent unit) of 281,500 tons. 1984 throughput will be 28,008 TEU at 420,120 tons. Tropical is now using St. Thomas as a transshipment point, by-passing Puerto Rico, and plans to expand this vital function, forecasting a doubling of throughput within five years.

Use of St. Thomas as a transshipment terminal for Caribbean cargo is a major factor which will increase total port throughput, independent of tourist-related factors. As such, container traffic can be used as a basic yardstick to forecast cargo growth, since it includes all factors, i.e.:




**ST. THOMAS VESSEL CARGO, 1978 to 1983**
REF. VIPA




**ST. THOMAS CRUISE PASSENGERS, 1978 to 1983**
REF. VIPA

REF. VIRGIN ISLANDS PORT AUTHORITY

FIGURE 3-6

- o Tourist-related cargo
- o Internal consumption
- o New construction
- o Transshipment.

### 3.2.2 Cargo Throughput Forecast

The factors used for the forecast are based on 1983 cargo throughput, as reported by Tropical Shipping, and the following assumptions:

- o Tropical's container throughput is 75 percent of total container throughput.
- o Total container throughput is 70 percent of total vessel cargo throughput.
- o Tropical's container movements will double in five to six years and will thereafter level at approximately 1 percent per year growth.
- o Container throughput other than Tropical will grow at 1 percent per year from 1983 on.
- o Cargo other than containerized (general, break-bulk, and neo-bulk cargo) will grow at 1 percent per year from 1983 on.

Vessel cargo forecasts based on these assumptions are shown in Table 3-4.

Figure 3-7 depicts the forecast data and indicates an average annual growth of 2.7 percent to the year 2000.

### 3.2.3 Impact on Crown Bay

The major impact on the Crown Bay area will be the amount of upland area, contiguous to the berth area, that will be required to sustain container operations. The 1990 forecast of containerized cargo is 730,000 tons or 48,667 TEU (based on 15 tons per TEU). The land area required can be defined as follows:

Table 3-4

TONNAGE
(in thousand tons)

| Year | Tropical Containers | Other Containers | Other Cargo | Total Throughput |
|---|---|---|---|---|
| 1983 | 281.5 | 93.8 | 160.9 | 536.2 |
| 1984 | 420.1 | 94.7 | 162.5 | 674.8 |
| 1985 | 465.0 | 95.7 | 164.1 | 724.8 |
| 1986 | 510.0 | 96.6 | 165.7 | 772.3 |
| 1987 | 540.0 | 97.7 | 167.4 | 805.0 |
| 1988 | 570.0 | 98.8 | 169.1 | 837.7 |
| 1989 | 600.0 | 99.6 | 170.8 | 870.4 |
| 1990 | 630.0 | 100.6 | 172.5 | 903.1 |
| 1992 | 645.0 | 102.6 | 179.5 | 923.5 |
| 1994 | 660.0 | 104.6 | 179.5 | 944.1 |
| 1996 | 675.0 | 106.7 | 183.1 | 964.8 |
| 1998 | 690.0 | 108.9 | 186.8 | 985.7 |
| 2000 | 705.0 | 111.0 | 190.5 | 1006.5 |

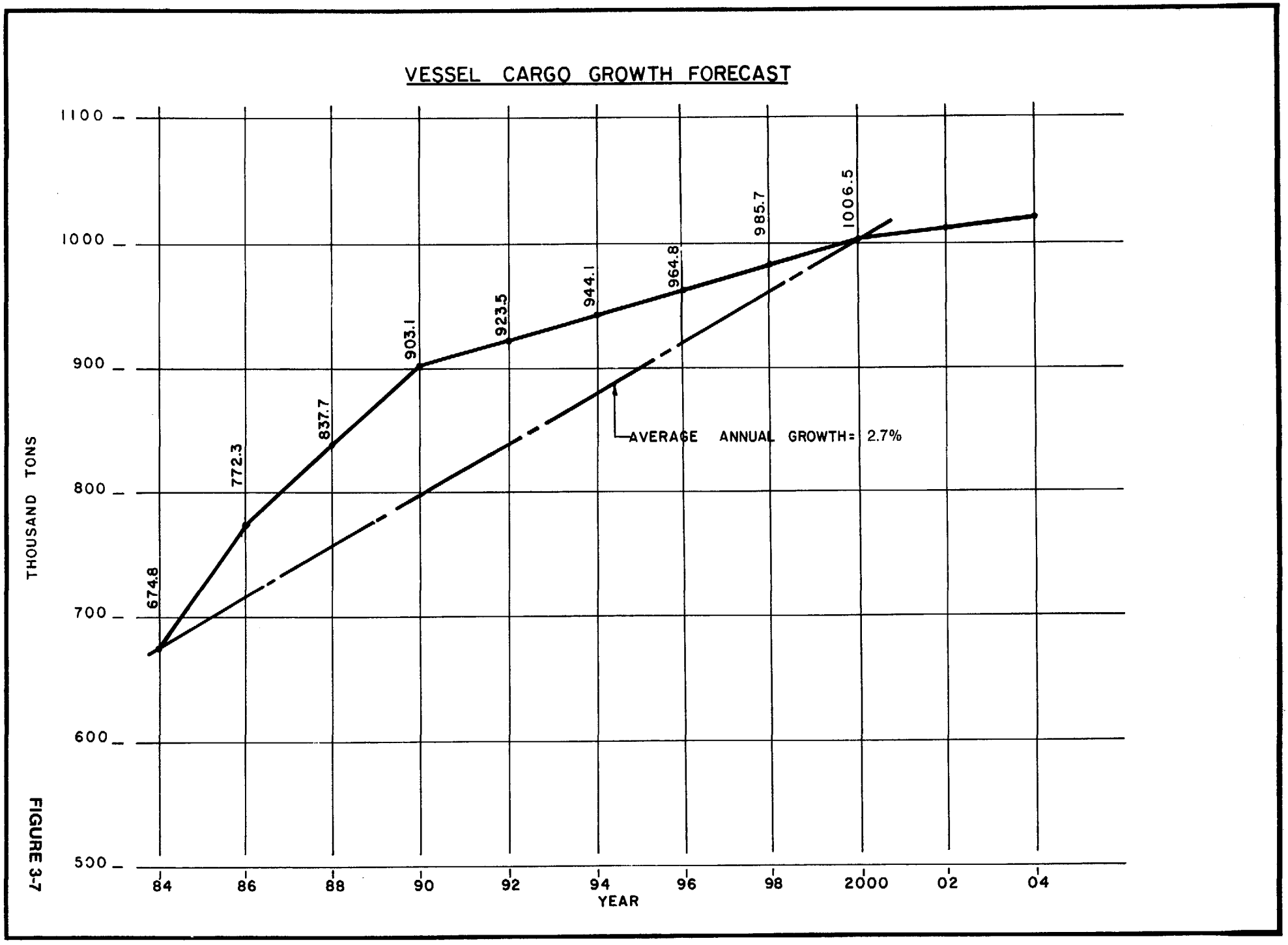

VESSEL CARGO GROWTH FORECAST
THOUSAND TONS
1100
1000
900
800
700
600
500
674.8
772.3
837.7
903.1
923.5
944.1
964.8
985.7
1006.5
AVERAGE ANNUAL GROWTH= 2.7%
84
86
88
90
92
94
96
98
2000
02
04
YEAR

FIGURE 3-7

- o Storage required = 6 percent of annual TEU (3 weeks/TEU)
- o Area required, based on ribbon pattern, 2 wide, 2 tier, using side loader equipment is 200 square feet/TEU

On this basis, land area for storage is:

$$\text{Acres, storage} = \frac{.06\ (48{,}667)\ 200}{43{,}560} = 13.4 \text{ acres}$$

Receiving shed area can be defined as 10 square feet/36 annual tons or $\frac{(730{,}000/36)10}{43{,}560} = 4.6$ acres

Therefore, the total upland area for containerized cargo by the year 1990 should be approximately 18 acres (for comparison, Tropical Shipping now has 5.5 acres for upland use).

By the year 2000, the area requirement for container use will expand to only 20 acres, due to a peaking of cargo throughput.

Recommendations, based on the foregoing, are that the Master Plan for the Crown Bay Area attempt to allocate approximately 20 acres dedicated to container cargo.

## 3.3 FUEL BUNKERING

The ability of a port to offer bunkering (fueling) services makes the port more attractive to vessel operations. Generally, the port itself neither does the bunkering nor owns the equipment involved. The port gathers revenue from the operation by:

- o A tariff based on barrels of oil loaded
- o Wharfage fees for vessels, berthing for bunker only
- o Land leases and dockage fees from the bunkering operator.

Bunkering of vessels takes place from a barge, a truck or a fixed pipeline from a berth face. Barge bunkering allows greater flexibility in operation since the vessel to be fueled need not be berthed, but may be fueled while at anchor. The disadvantage of barge bunkering is that it is weather sensitive and could be environmentally more dangerous than fixed pipe systems. The advantage of barge bunkering to St. Thomas is that barge operations are policed by the U.S. Coast Guard. This policing forces mandatory controls on a bunkering operation which will provide environmental safety measures. A land-based operation, with its incipient spills, requires policing and control by the local municipality. Bunkering by barge is, therefore, advantageous to St. Thomas and as such is recommended.

The average vessel calling at St. Thomas will require 3,000 to 4,000 barrels of fuel and will take two to three hours for the bunkering operation.

Direct revenue to various ports as a bunkering charge varies from $0.00 to $0.04 per barrel. The ports discussed below are, at present, major suppliers in the region.

### 3.3.1 Port of Miami

The majority of bunkering at the Port of Miami is carried out by barge at a rate exceeding 22 million barrels per year. The fuel supplied is generally a blend of diesel oil and bunker. Storage is land based in tanks. Fuel barge filling is via pipeline to the barge. Fueling of vessels is via hose connections from the barge to the vessel.

Environmental control is in accordance with EPA regulations which require that floating booms, oil recovery equipment, and materials be "readily available."

The U.S. Coast Guard reports that the Port of Miami has not evidenced problems, even though most bunkering is from barges. The Coast Guard attributes this to the fact that operations are carried out by experts using good equipment.

### 3.3.2 Port Everglades

The majority of bunkering at Port Everglades is carried out at the berth through loading arms and hoses, at a rate exceeding 1.2 million barrels per year. Storage of fuel is in land-based tank farms which also serve as distribution centers for local users. Environmental control is by berth-containment areas which direct spills to oily waste sumps. The Coast Guard reports that no significant problems with fueling operations at Port Everglades.

### 3.3.3 Port of Curacao

The Port of Curacao has eleven piers that are equipped to provide bunkers. The approximate export of oil as bunker is 4 million barrels per year. Vessels calling exclusively for bunkers, provided they do not discharge and/or load more than two tons of cargo, land and/or embark more than five passengers, have free wharfage.

### 3.3.4 St. Thomas

When the groundwork was being laid for this study, no bunkering service existed in St. Thomas. This position, however, was changed when application was made to V.I.P.A. to provide such a service early in 1984. Three companies eventually applied for the concession; two were awarded a concession in August and, later, Industrial Development Commission Program benefits.

In essence, each concession will benefit the V.I.P.A. through the payment of a $500 per annum franchise fee, standard pilotage, and dockage fees, and a fuel flow fee based on the tonnage of fuel sold in the harbor.

Both companies intend using barges. One will use a new 2,158-ton barge making weekly trips from St. Eustatia. This barge could service 12 cruise ships per trip, and would be tendered by a 1,500-horsepower tug, which would move it alongside the ship to be bunkered, either at the quay or at anchor. The barge would be anchored out in a suitable location while not involved in bunkering.

The barge will contain 1,000 feet of spill boom and the tug will be equipped with oil skimmers as well as oil dispersants and fire-fighting foam.

The second company intends to run two smaller barges from the Hess refinery in St. Croix, basing these barges at the old Shell Depot in Krum Bay. To date, neither company has started operating.

### 3.3.5 Environmental Concerns

Federal regulations do not require the placement of floating booms during a bunkering operation; however, many operators, particularly in the northeastern U.S., make this a standard procedure. The U.S. Coast Guard at San Juan, Puerto Rico, will issue a letter of adequacy to the St. Thomas bunkering operator after they review his equipment and operating manual. Anything that is stated in the manual will thereafter be enforceable by the Coast Guard.

The Code of Federal Regulations, Title 33 (see Addendum 3) covers the requirements the bunkering operator must meet. The pertinent sections are:

- 154 - Oil Pollution Prevention Regulations for Marine Oil Transfer Facilities
- 155 - Oil Pollution Prevention Regulations for Vessels.
- 156 - Oil Pollution Prevention Regulations for Oil Transfer Operations Involving Vessels.

Land-based storage of fuels is basically safer than barge storage. From an environmental standpoint, however, enforcement of pollution prevention measures is more stringent under Section 155 of CR 33. Barge storage, therefore, is a viable method, yet concern should be shown as to where such a barge should be moored. Krum Bay forms the intake for the power plant cooling water and the desalinization plant supply. A major oil spill could do substantial damage, should wind and wave conditions carry the spilled oil to the intake (see Section 3.7).

Based on the foregoing, the following recommendations are made:

- o During the oil transfer operations, a floating boom should be deployed.
- o During mooring of an oil barge, a floating boom should be deployed to contain incipient as well as catastrophic spills.
- o Under storm-warning conditions, appropriate steps should be taken to move an oil-laden barge out of the harbor.

### 3.3.6 Related Issue of Waste Oil Reception

The U.S. Coast Guard will in the near future be required to enforce regulations implementing the reception facility requirements of the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL 73/78).(1) MARPOL 73/78 requires that all ports, as defined in the Federal Register, provide for the reception of oil waste from all vessels. Should the port not comply, then the U.S. Coast Guard can deny entry to the harbor of any vessel covered. Practically all vessels are covered, including cruise ships.

It is not necessary that the port itself operate such reception facilities, but such service must be provided by someone responsible to the port. It is, therefore, recommended that this issue be explored in an attempt to link the reception facility with the bunkering operation.

## 3.4 SMALL BOAT INDUSTRY/MARINA REQUIREMENTS

### 3.4.1 Charter Boat Industry

The embryo of a pleasure-boating center already exists in the project area (at Shoreline Marine), and the necessary preconditions for the establishment of a larger-scale undertaking are present. The following brief study was undertaken to assess the market.

Little documentation has been recorded of the scale and depth of the charter boat industry in the Virgin Islands. The Carder study of 1980 is now considered dated, and the following summary has been based on what data could

(1)Addendum 4, Federal Register, Proposed Rulemaking for Reception Facilities.

be gleaned by interviews with leading local companies in the field.(1) It must thus not be accepted as a definitive analysis of the industry, which is both complex and diffused, and requires a far greater depth of study than is either possible or valid for the purposes of this report. The sections which follow can only identify the general trends and scale of the industry.

### 3.4.1.1 Crewed Boats

These are usually chartered for a week, and come fully provisioned with a two or three-person crew, who provide personalized service to the guests (numbering four to six) during the cruise which generally encompasses the British Virgin Islands.

About 255 such boats are chartered out of St. Thomas, about 60 percent of which are corporation-owned, operated as tax shelters. Estimates of the number of charters per year vary from 10 to 17, with 14 the general average obtained in 1983. The gross annual average income per boat is $56,000. On the basis of an average boat cost of $250,000, running costs for the year (including crew wages, debt service, maintenance, etc.) would be on the order of $105,600. The resultant "loss" of $49,600 is cushioned by the favorable rates of depreciation and investment incentives permitted. The estimated average annual "on island" expenditures for 255 boats, assuming this average set of circumstances, is given below.

| | Millions |
|---|---|
| Maintenance | $ 6.4 |
| Provisioning | $ 2.8 |
| Wages | $ 7.6 |
| Brokerage | $ 1.1 |
| TOTAL | $18 |

(1)C. Carder, Survey of Charter Boating and Related Business in the Virgin Islands, Virgin Islands, Department of Commerce, 1980.

### 3.4.1.2 Bare Boats

These boats are usually rented for 7-day periods without provisions (which can be supplied) and crew. Occasionally (in 15 percent of the charters) a captain is also hired as a guide for less experienced parties which vary in size from two to six persons. The boats are usually smaller, are predominantly corporate-owned, and operated as tax shelters. About 240 are based in St. Thomas, and operated by about 14 companies (see Table 3-5). These boats achieved about 18 weeks of charter per annum on the average in 1983. The annual average income from a bare boat would be $27,000, while operating costs, debt service, etc. would be on the order of $40,750.

The estimated average annual "on-island" expenditure for the bare boat industry is given below:

| | Millions |
|---|---|
| Maintenance | $ 3.6 |
| Provisions | $ 1.7 |
| Wages | $ 1.6 |
| Brokerage | $ 0.2 |
| TOTAL | $ 7.1 |

The total direct expenditure from these two segments of the industry (crewed and bare boats) is thus $25 million. To this amount should be added the expenditure by the guests on gifts, taxis, restaurants and hotels which was found by a recent Department of Commerce study to be on the order of $7.4 million.

### 3.4.1.3 Other Charter Boats

Day charter boats provide a different service in the tourist industry, more akin to the tour operators. They are used extensively by the hotel-based tourists (5 percent went fishing and 45 percent went sailing in 1981), but unfortunately no statistics exist itemizing their expenditure on these

Table 3-5

BARE BOATS

| NAME OF COMPANY | NO. OF BOATS USVI | NO. OF BOATS BVI | RANGE OF SIZES (feet) |
|---|---|---|---|
| Avery's Boathouse, Inc. | 20 | | 32 - 41 |
| Bahama | 18 | | 28 - 35 |
| Seabreeze | 21 | | 40 - 45 |
| Charter Sail | 6 | | 35 - 43 |
| CSY | | 60 | 33 - 44 |
| CYC | 35 | | 32 - 46 |
| CYOA | 18 | | 33 - 42 |
| Hirsch SC, Inc. | 19 | | 38 - 45 |
| Island Yachts | 25 | | 30 - 38 |
| J World | 3 | | 24 - 30 |
| La Vida | 29 | | 32 - 42 |
| Moorings | | 80 | 39 - 50 |
| Mr. Bareboat, Inc. | 3 | | 42 |
| Y-S YC | | 25 | 38 - 48 |
| Sail The Rainbow | 14 | | 31 - 47 |
| Dick Tyrell Co. | 10 | | 35 - 45 |
| Starboard YC | 18 | | 40 - 44 |
| Tortola Is. Charter | | 4 | 42 |
| Tortola M.M. | | 30 | 34 - 44 |
| Tortola YC | | 30 | 36 - 49 |
| Tropic Is. YC | | 12 | 30 - 46 |
| W.I. YC | | 41 | 31 - 44 |
| TOTAL | 238 | 282 | |

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activities, and there are no records of the real extent of this segment of the boating industry, neither in terms of the number of boats involved, nor the number of guests catered for a year. Typical daily fees run at $50 per capita per day (gross) with 10 percent to 15 percent being taken as a booking fee. Lunch, free drinks, and snorkel/fishing equipment are included in this fee, and between two and six persons are usually taken. A considerable number of guests also come from cruise liners, further complicating the compilation of a clear picture of the scale of the operation, which is now run almost exclusively by boat owners in smaller boats. In many ways, these boats are similar to water taxis, with the vehicles providing homes for the owners as well. The Association of Marine Industries estimates that about 40 boats are involved in the dive/sport fishing day charter industry, producing a charter revenue of over one million dollars.

A recent class of charter boats now entering the local market is the maxi-power yacht, in the 110-foot to 180-foot range. During the 1983/84 winter season, 12 were based in St. Thomas (7 were chartering actively), seeking services which were physically not available. Their demands for potable water, electricity, provisioning, and fuel are extensive, and most agents interviewed indicated that their numbers would increase if appropriate facilities were provided in a good environment. Provisioning accounts for $2,000 a week when not on charter (up to $5,000 on charter); fuel costs up to $10,000 to fill tanks; and charter rates are on the order of $3,500 per person per week. These boats carry, on the average, a five- to six-person crew, and each represents an investment in excess of $5 million.

#### 3.4.1.4 Employment Opportunities

No direct statistics exist on the number of persons employed directly or indirectly in the charter industry. Thus, estimated ratios are used to give scale to the numbers.

Direct employment on crewed boats was estimated by Carder to be 3.5 crew per boat, a figure considered too high today. Allowing for occasional labor between charters for maintenance and cleaning, a figure of 2.5 would be more

realistic. To run a bare boat fleet, a ratio of 2.5 boats per employee would be a reasonable assumption. (This ratio is based on the responses of three major companies surveyed in St. Thomas.)

Secondary employment (brokerage, marine stores, marinas, provisioning, taxis) is more difficult to assess, but is considered to be higher than the 1:1 ratio accepted for the hotel industry, as many "hotel type" functions such as maintenance are undertaken by shoreside contractors, and upkeep is generally far more labor intensive than in conventional accommodations. A multiplier of 1:1.5 (primary, secondary) is assumed for the purpose of this calculation.

Regular employment opportunities could then be summarized as follows:

| TYPE | NO. OF BOATS | RATIO | DIRECT EMPLOYMENT |
|---|---|---|---|
| CREWED | 255 | 1:2.5 | 640 |
| BARE | 238 | 2.5:1 | 95 |
| DAY/DIVE | PRIMARY EMPLOYMENT TOTAL | | 855 |
| | SECONDARY | 1.5 X PRIMARY | 1,285 |
| | | TOTAL EMPLOYMENT | 2,140 |

3.4.1.5 Service Support

For an industry using about 500 boats and employing about 850 persons directly, the support facilities are very inadequate. A survey conducted by the Association of Marine Industries showed that no less than 93 U.S. Virgin Islands companies were involved in support services; yet access to these companies is very restricted. Basically 8 large marinas on St. Thomas provide berths for only 490 boats and these marinas would have to service both visiting pleasure craft, live-aboards, and weekend sailors.

Based on an average boat size of 38 feet and a 60 percent occupancy rate, the total amount grossed by these marinas is $1.5 million per annum, or $3,000 per berth. Proposals for new marinas on St. Thomas total 917 new slips in 9

expansion or new projects (see Table 3-6). Although a pent-up demand exists for well-located and appropriately priced marina facilities, particularly for the expanding bare-boat charter fleets, such demand is not infinitely elastic. Wernicke and Towle recorded 1,022 boats at anchorages in St. Thomas in 1982 (424 were being lived on), but this does not mean that the majority of the boats not now at marinas would move to new facilities, if built. Most boats at anchor are there because their owners choose not to be at marinas, largely because of cost, or the close living space experienced at marinas. Even if the proposed mooring regulations were brought into law and made workable, only a small proportion of the boats now at anchor would choose to move to a marina as a result of these regulations.

By far the greatest demand for marina space exists within the charter boat industry, which, like the hotel industry, is seasonal. Though a large proportion of the larger crewed boats move away from the islands for the summer season to the East Coast or the Mediterranean, few bare boats move away; these companies use the summer for maintenance and cut-rate charters and thus their demand for space continues throughout the year. The charter industry requires well-located marinas with transport, provisioning, and access to related services being important criteria. Yacht Haven holds the monopoly on these at present.

#### 3.4.1.6 Findings

The foregoing analysis of the charter boat industry cannot pretend to be definitive, for accurate records are just not forthcoming. A number of issues are made clear by this analysis. They are:

- The charter boat industry is basically a tax shelter industry, and most boats show a loss on their operations at present. In effect, the industry represents a federally subsidized component of the tourist industry, encouraging some 40,000 persons to visit the islands in 1983, a very large proportion of whom would not have availed themselves of the opportunity were charter fares fixed at real economic rates.

Table 3-6

PROPOSED MARINA PROJECTS

| LOCATION | APPROXIMATE NO OF BERTHS PLANNED | STATUS |
|---|---|---|
| Frenchtown | 90 | CZM rejection on appeal |
| Long Bay (WICO) | 130 | Feasibility study only |
| Yacht Haven Exp. | 36 | In abeyance |
| Compass Point Exp. | 90 | Application rejected |
| Benner Cove | 165 | Application being considered |
| Enighed Pond (St. John)(V.I.P.A.) | 80 | |
| Red Hook (V.I.P.A.) | 150 | In abeyance |
| Sapphire | 76 | Application being considered |
| TOTAL | 817 | |

Source: McComb Engineering, 1984

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- This number represents 12 percent of the 1982 tourist entry into the Virgin Islands.

- In comparative terms, the charter boats offer 2,500 "bed spaces," and "occupancy rates" at present are around 35 percent.

- The industry represents a mobile capital investment of $105 million in the Virgin Islands, and brings in approximately $25 million per annum

- It supplies direct employment to about 850 persons, representing a wage income of about $9.5, as well as secondary employment to about 1,300 persons

- The number of boats (493) in the industry exceeds the number of marina berths available on St. Thomas. Current proposals for additional marina berths could accommodate the latent demand for space.

### 3.4.2 Recreational (non-charter) Boating

In the context of St. Thomas, it is difficult to neatly separate the charter boats from the non-charter boats. Of the 574 charter boats identified in the foregoing section, many, particularly the unidentified number of day-sail charter boats are multipurpose, providing a source of income, a home, and a vehicle for recreation. At the other end of the scale, there are the small power boats, mainly kept in dry storage, used for weekend fishing, diving or waterskiing as well as the smaller sail boats, many kept exclusively for weekend racing.

In between are the many categories of craft: the maxi-power yachts, professionally crewed and kept for the use of the owner and his friends; the visiting itinerant cruising boats (almost exclusively sail) calling at the island, and the live-aboard boats, equivalent to terrestrial mobile homes. Few figures exist on the extent or needs of these crafts. The following section records what is known.

### 3.4.2.1 Dry Storage Craft

These are largely in the 15- to 25-foot range, gasoline powered through outboard or inboard motors, and used mainly over weekends and holidays. The Association of Marine Industries identified about 280 spaces, mainly in two yards: Virgin Islands Pleasure Boats in Benner Bay, and Shoreline Marine in Crown Bay. Antilles, in Benner Bay, also serves as a storage/repair yard for larger craft launching with a travel hoist; the other two yards use forklift vehicles. Their water-dependent facilities are relatively simple, a launching dock and associated dock for short-term repairs and fueling.

### 3.4.2.2 Weekend Pleasure Craft - Moored or Berthed

These crafts are distributed across the anchorages and marinas on the island and range from small sailing boats to a limited number of power yachts, kept in marinas. The largest concentration of sailing craft is in Cowpet Bay, controlled by the St. Thomas Yacht Club, where in early 1983, Wernicke and Towle counted 59 boats. Their demands are also relatively simple, access via dinghies to the moored boats and fuel facilities.

### 3.4.2.3 Cruising Visitors

The Virgin Islands, and St. Thomas in particular, is a regular destination of cruising sailors passing both west to the United States and Panama, and southeast to the lower Caribbean. Their numbers are unknown, but are thought to be between 500 and 1,000 per annum. Each is estimated to spend between $1,000 and $2,000 during an average stay of about a week.

The secondary category of "cruising" visitors are the regular invasions of fleets of Puerto Rican power boats which visit St. Thomas on route to St. John and the British Virgin Islands over holiday weekends and Carnival. Their numbers have been estimated to be between 100 to 200 on major long weekend holidays, and they use St. Thomas as a port of entry, a refueling stop, and for duty-free shopping on their return. Though no records are available, it is considered that their annual expenditure would exceed the expenditure of

all other cruising visitors, especially with regard to fuel. Serious congestion occurs at the limited fuel docks and marinas during these weekends.

3.4.2.4 Live-Aboards

Wernicke and Towle recorded a total of 423 craft, the highest concentration being in Long Bay, with 203 (nearly 50 percent), with Benner Bay (20 percent) and Red Hook (18 percent) accommodating most of the balance.(1) By and large, the occupants are working, either ashore or on charter boats, or are retirees. Their craft vary from a few unmobile semi-derelict "houseboat" types to well-maintained sailing craft which are also used for recreation. Though their used needs are more complex than the craft owned for weekend use, they place few demands on the islands infrastructure. Those who occupy marina berths need access to the shore, ablution facilities, potable water, electricity, fuel, and garbage removal supplied by the marina. Those at anchor need all these services and find them in other ways.

3.4.2.5 Findings

Though not a direct component of the tourist industry, the recreational boats do play an important role in the overall service industry, one which, however, is difficult to quantify. There is a considerable overlap in both the personnel and the facilities used, and together they provide a sufficient scale of operation to create a more competitive service market to benefit both charter boat and recreational boat owners.

3.4.3 Marina

The preceding sections explored the scale of the contribution the small boat industry makes to the Virgin Islands' economy. They established that:

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(1)W. Wernike and E. Towle, Vessel Waste Control Plan for the United States Virgin Islands, Island Resources Foundation, March 1983.

- o In real terms, charter-boats are a valuable component of the hospitality industry, providing revenue, employment and a unique magnet for vacationers.
- o The number of boats, while sensitive to the volume of charter bookings, is largely dependent on tax shelter legislation, and the overall fleet is growing.
- o Considerable slack exists which could accommodate a far higher level of occupancy on the boats and rapidly absorb new demands derived from an expanding economy and associated expanding vacation market.
- o The industry lacks adequate service support. Though many marinas are planned at present, the total demand for facilities is not likely to be satisfied by them, either singly or jointly.
- o In addition to the demands for services by the charter boats, recreational boating, both local and visiting, lacks appropriate facilities.

The conclusion is that a marina facility in the Crown Bay area would be a desirable addition to the Cruise Port.

3.4.3.1 Criteria For Site Selection

The criteria which aid in the identification of suitable sites for marina/service facilities are demand criteria, supply side criteria, and tenant selection.

Demand Criteria - These provide a gauge for the selection of a site from the viewpoint of the boat owner/operator, and include:

- o Water conditions. Ideally, the waters should be reasonably sheltered from wind and ocean-driven waves, and unpolluted.
- o Accessibility to services, which would include repairs and maintenance, brokerage and clearing houses, sail lofts,telephones and telex.
- o Accessibility to supermarkets, marine and hardware stores, and laundromats.

- o Accessibility to road transport and airport.
- o Accessibility to vacationer markets (hotels and cruise ships).
- o Availability of dockside utilities such as clean potable water, electricity (single and 3-phase) and sewage pumpout stations.
- o Dockside security.
- o Proximity to a range of restaurants and taverns.
- o A pleasant general environment, both on the water and ashore.
- o Cost of berthing and utilities.

Supply-Side Criteria - The marina/service center developer would seek out:

- o Inherently sheltered water.
- o Adequate land adjacent to it.
- o Suitable water depth (10-15 feet).
- o Availability of utilities.
- o A nucleus of service-related land uses (stores, repair facilities, etc.).
- o Reasonable water area/land purchase or rental costs.

Tenant Selection - From the point of view of the government (and the V.I.P.A.), the criteria on which a marina would be judged to be a suitable tenant in Crown Bay would include:

- o Water dependency.
- o Compatibility with other uses proposed in the area.
- o Provision of a firm economic base to support the island's primary tourist industry.
- o Ensuring a stable income to the V.I.P.A.
- o Meeting a real and identified need.

It can be anticipated that, with the completion of the cruise ship docks and associated facilities, together with a general upgrading of facilities through the improved planning and management made possible by the construction of Phase 2a, the general environment of the Sub-Base/Crown Bay area will be improved. To a large degree, if the facility itself is large enough, it can

create its own high grade environment internally, and this can be assisted by judicious planning of the periphery of a marina area.

### 3.4.3.2 Findings

It is considered (this opinion is shared by numerous persons in the industry, and has been expressed by them during meetings) that a marina would be a viable facility in Crown Bay, given the right preconditions and appropriate planning of the area. The reasons for this are summarized as follows:

- The existing small facility (Shoreline Marine) has shown a strong interest to expand and provide the capital for this expansion.
- A development of this kind is totally compatible with the activities generated by a cruise ship dock. A minimum of 100 slips is considered to be necessary to ensure a viable facility.
- The marina would act as a powerful catalyst in the rehabilitation of the Sub-Base area, providing a stable economic base for allied tourist-related services which would augment those already planned for the cruise ship dock.
- All the small boat activities in the area could be consolidated into one facility (including the Water Island Ferry dock) enabling the water activities to be better managed.
- It would provide a reliable source of income to the V.I.P.A..

Figure 3-8 rates each of the criteria listed as viewed by the user, the developer, and the landlord. These ratings are based on experience in the markets and on opinions expressed at interviews. The exhibit has been prepared to provide a checklist, in graphic form, of the locational assets and liabilities of the site.

### 3.4.3.3 Conclusions

A marina, capable of docking 100 boats, would provide a valuable asset to the development of Crown Bay. Such a facility would require a water area of

| | ELEMENT | RATING | | | NOTES |
|---|---|---|---|---|---|
| | | GOOD | FAIR | POOR | |
| DEMAND | Water Cond. | | ● | | Can be created |
| | Access to Serv. | ● | | | |
| | Access to Stores | ● | | | |
| | Access to Trans. | ● | | | |
| | Access to Vacat. | | ● | | Cruise liner, docks, hotels |
| | Utilities | ● | | | |
| | Security | | ● | | Can be improved |
| | Restaurants / Bars | ● | | | |
| | Enviromental | | | ● | |
| | Costs | | | | Unknown |
| SUPPLY | Sheltered Water | | ● | | Can be created |
| | Avail. of Land | ● | | | |
| | Water Depth | | | ● | Too Deep |
| | Utilities | ● | | | |
| | Exist. Services | ● | | | |
| | Cost | | | | Unknown |
| TENANT | Water Dependant | ● | | | |
| | Compatible | ● | | | |
| | Tourist Orientated | ● | | | |
| | Stable Income | ● | | | |
| | Identified Need | ● | | | |

## SMALL BOAT FACILITY SUITABILITY ASSESSMENT

FIGURE 3-8

approximately 5 acres and an upland area, including parking, of approximately 4 acres.

For master planning purposes, the marina should have space allocation for slips to handle small power boats and sailboats ranging in size from 30 feet to 60 feet; a narrow entrance channel to keep wave action to a minimum; and adequate upland area for parking, boat repair, and marine supply provisioning. Provisions for a fueling dock and adequate utilities must also be provided. Adequate flushing of the marina basin must be addressed in its design.

## 3.5 HOTEL INDUSTRY

Section 2.3 provides a background to the importance of the hotel industry to the Virgin Islands, both in terms of revenue production and job creation. It also illuminates the confidence private enterprise is showing in the industry, with 1,700 new rooms being planned on St. Thomas which represent an investment of $200 million. The expansion of the industry is predicated on two issues: expansion of the American economy as a whole coupled to the ability of St. Thomas to capture an increased share of the new market. At present, the Virgin Islands is ranked fifth, and has a 5 percent share of the Caribbean trade.

It is widely recognized that hotels in the Virgin Islands are primary water-dependent uses, and that the occupancy rate in a hotel is almost directly related to the water-related activities it can offer (as well, of course, as the nature of its environment and its level of service).

To assess the suitability of the Crown Bay/Sub-Base area for hotel use, the basic criteria for hotel site selection are examined briefly. This process does not pretend to be exhaustive, only exploratory, as the issue of the feasibility of a hotel is highly complex and outside the scope of this study. The basic criteria are listed below. In the context of Crown Bay, these criteria have been framed to recognize that the site is not Caneel Bay, and that a hotel would, by nature, be an "urban" resort hotel, with a larger component of commercial trade than a resort hotel, such as Lime Tree Resort.

It also recognizes the need to be adjacent to a marina in order to optimize on the strong linkage between the two. This is not to say that a hotel could not stand alone without a marina in Crown Bay; rather, its operation would have substantially more success if it shared a small boat harbor and waterfront with a marina.

### 3.5.1 Demand Criteria

These criteria have been prepared to reflect the elements sought after by potential users of the hotel. They include:

- o A pleasing "tropical" environment.
- o Access to a good quality beach.
- o On-site recreation facilities - tennis, health spa, swimming pool.
- o Access to water sports - sailing, diving, fishing, water skiing.
- o Access to Charlotte Amalie shopping and restaurants.
- o Quality of accommodations and service.
- o Adequate security.
- o Costs.

### 3.5.2 Supply Criteria

These reflect some of the factors which would influence a hotel operator to invest in the facility.

- o Land costs and availability.
- o Pleasing environment.
- o Access to utilities.
- o Access to good beach.
- o Access to water sports.
- o Exposure to trade.

### 3.5.3 Tenant Criteria

These represent the issues which the government and the V.I.P.A. would consider in their selection of the use.

- o Water dependency.
- o Compatibility with other uses proposed in the area.
- o Support function with these uses.
- o Provision of a firm economic base to support the island's primary tourist industry.
- o Ensuring a stable income to V.I.P.A..
- o Meeting a real and identified need.

### 3.5.4 Findings

An inspection of these criteria indicates that a hotel, adjacent to a marina, could become a strong element in the rehabilitation of the Sub-Base/Crown Bay area, and could significantly aid in the transition of the area from that of a run-down, industrial slum to one which could provide the cruise ship visitor with a greater feeling of arriving at a vacation center. It could also introduce a stable night-time population into the area, encouraging cruise ships to remain for longer periods of time. The main negative features, those of a poor environment and the lack of a good beach, can be mitigated through judicious design of the hotel and marina, creating an introverted environment which would in large turn its back to the surroundings (it would also act as a catalyst in their improvement).

There is, at present, a good ferry service to the Honeymoon Beach on Water Island, a service which is going to be improved with the re-opening of the hotel there. This would largely substitute for an on-site beach.

The hotel could also offer many of the services needed by cruise ship visitors, with mutual benefits. Its compatibility with marina operations is also strong, and mutually supportive.

Figure 3-9 rates each of the criteria listed as viewed by the user, the developer and the landlord. These ratings are based on experience in the markets and on opinions expressed at interviews. The exhibit has been prepared to provide a checklist, in graphic form, of the locational assets and liabilities of the site.

| | ELEMENT | RATING | | | NOTES |
|---|---|---|---|---|---|
| | | GOOD | FAIR | POOR | |
| DEMAND | Environment | | | ● | Urban |
| | Access to Beach | | ● | | At Water Island |
| | Recreation Fac. | ● | | | On Site |
| | Water Sports | ● | | | At Marina |
| | Shopp. & Rest. | ● | | | |
| | Accommodations | ● | | | |
| | Access to Trans. | ● | | | |
| | Security | | | ● | |
| | Costs | | | | Unknown |
| SUPPLY | Land Costs | | | | Unknown |
| | Environment | | | ● | Urban |
| | Utilities | ● | | | |
| | Access to Beach | | ● | | |
| | Water Sports | ● | | | |
| | Trade Exposure | ● | | | |
| TENANT | Water Dependant | ● | | | |
| | Compatible | ● | | | |
| | Support Uses | ● | | | |
| | Tourist Orientated | ● | | | |
| | Stable Income | | ● | | |
| | Identified Need | | ● | | |

## HOTEL SUITABILITY ASSESSMENT

FIGURE 3-9

### 3.5.5 Conclusion

The Crown Bay Master Plan should, and does, allocate suitable area for future construction of a hotel.

## 3.6 CANCRYN SCHOOL

### 3.6.1 Location Problem

The Adelita Cancryn Junior High School occupies eight acres at the eastern end of Crown Bay. The adjacent cricket field is about four acres. The site is filled land created along with the rest of the Crown Bay port and commercial area. Concern about the existence of the school in this area has been increasingly expressed over the past two years. This concern comes from teachers, parents and others who feel that the students are at risk from automobile traffic on the 4-lane highway, truck traffic to and from the port, bulk loading/unloading equipment and liquified propane delivery on the wharf behind the school and a new gas station across the street (traffic, explosion hazards). Another faction is concerned about the inappropriate location of the school as it uses space more suitable for port-related uses.

### 3.6.2 Possible Relocation of School

The concerns of parents and teachers are not as strongly felt by the school administration. While it acknowledges the areas of concern expressed, the administration does not feel that these are of a magnitude that requires relocation of the facility. However, this does not preclude the fact that relocation of the school would not only be beneficial to the school, but also to the port. Figure 3-10 shows possible relocation sites.

#### 3.6.2.1 Location 1 - Bourne Field

This primarily residential area north of Truman Airport belongs to the V.I.P.A. V.I.P.A.'s long-range desire is to convert the area to commerce and airport-related uses. A school would be compatible here; however, a major

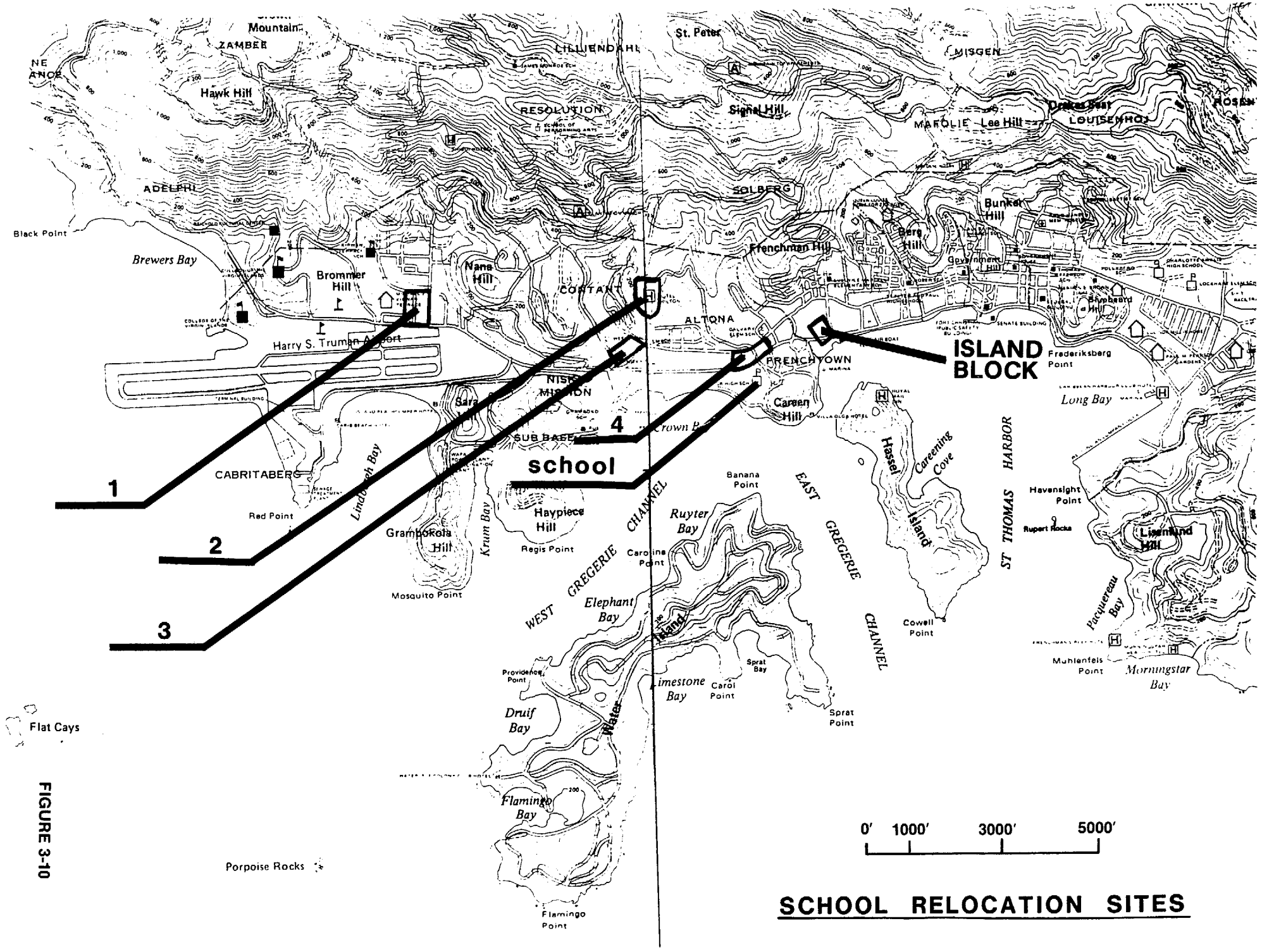

ISLAND BLOCK
school
1
2
3
4
0' 1000' 3000' 5000'
SCHOOL RELOCATION SITES
Mountain
ZAMBEE
Hawk Hill
RESOLUTION
LILLIENDAHL
St. Peter
MISGEN
Signal Hill
MARÖLIE
Lee Hill
LOUISENHOJ
ADELPHI
SOLBERG
Bunker Hill
Black Point
Brewers Bay
Brommer Hill
Nana Hill
CORIANT
Frenchman Hill
Berg Hill
Government Hill
ALTONA
Harry S. Truman Airport
FRENCHTOWN
Frederiksberg Point
Careen Hill
Long Bay
CABRITABERG
Red Point
Lindbergh Bay
SUB BASE
Crown Pt.
Hassel Island
Careening Cove
HARBOR
ST THOMAS
Havensight Point
Rupert Rocks
Lissenlund Hill
Banana Point
EAST GREGERIE CHANNEL
Ruyter Bay
Haypiece Hill
Regis Point
Caroline Point
Krum Bay
Grambokola Hill
Mosquito Point
WEST GREGERIE CHANNEL
Elephant Bay
Cowell Point
Pacquereau Bay
Muhlenfels Point
Morningstar Bay
Providence Point
Limestone Bay
Carol Point
Sprat Bay
Sprat Point
Druif Bay
Water
Flamingo Bay
Flamingo Point
Flat Cays
Porpoise Rocks

FIGURE 3-10

impediment is the need to relocate the families now there. With the crisis in low and middle income housing, it is not expected that this relocation can be accomplished in the near future, so V.I.P.A. has not yet formulated any specific redevelopment plans. The advantage of this location is that V.I.P.A. could swap sites.

3.6.2.2 Location 2 - V.I. Hotel

It has been suggested that government acquire this hotel property and convert it to a junior high school and other public facilities. The hotel has been plagued by profitability problems over the past few years. It is not known if the property is on the market at the moment.

Conversion to school use could be expensive, as would the acquisition. The facility is larger than needed for the junior high, but other associated uses could be found.

3.6.2.3 Location 3 - Nisky Elementary School

This school, including grades K-6, is located on about 1.6 acres approximately 0.5 mile west of Cancryn School. There is also an adjacent empty lot of about the same size. The facility comprises two 2-story buildings. Potentially, the property could also house the Cancryn School. This would require the addition of 2- to 3-story buildings. The location is fairly close to the present Cancryn site. The cost of constructing on this site would be favorable as it is flat.

3.6.2.4 Location 4 - "Western Cemetery"

There are two parcels just north of the present school on the other side of Veterans Drive. One is immediately west of the cemetery; the other is directly opposite Cancryn School. The latter is rather narrow, but could be suitable. The eastern parcel has been slated for a shopping center development by the owner, but the assurance of those plans is not known.

Another alternative is to cut the present school property in half and make the buildings two-story. This is a hybrid or partial solution which could be useful either as an interim or a long-term solution. It would free up half of the area for port use and not require complete construction of a new school at a new site from "scratch". The present cafeteria building could be used for warehouse and commercial activity.

#### 3.6.2.5 Location 5 - Island Block Site

Island Block has indicated its desire to obtain land closer to the quayside. Its lease with the owners of the land expires within a few years, and the possibility exists that it could be accommodated within Crown Bay, and the land could be acquired from the present owners.

### 3.6.3 Conversion of School Buildings

The possibility of converting the school buildings to warehouses was explored with the following persons:

- Mr. Joseph Trunk, Principal, Cancryn School
- Senator Ruby Simmonds, V.I. Legislature
- Senator Virdin Brown, V.I. Legislature
- Mr. Darlan Brin, V.I.P.A.
- Mr. Winston Adams, Department of Education
- Mr. Tyrone Martin, Highway Planning, Department of Public Works
- Mr. Brian Turnbull, V.I. Planning Office.

All the buildings are single story with concrete block walls and wood beam roofs. Ceiling beam height (8 feet) is too low to allow fork lift operation except in the cafeteria building. This makes the buildings unsuitable for general warehousing, but they might be useful for miniwarehouses, light industrial, or commercial activities.

### 3.6.4 Conclusion and Recommendations

The present problems at the school are primarily nuisance, inconvenience and perceived danger from gasoline storage, traffic and liquified propane transfers. To date, no serious episodes have occurred from any of these areas; therefore, the Department of Education, has no impetus to relocating the school.

Actually, the more substantive issue is the inappropriateness of the school in that location rather than actual conflicts or incidents. The space it occupies within the port setting could be better utilized for port-related or water-dependent uses. The school is neither; it could function just as well elsewhere. With the planned development of the port facilities and the projected increased activity in the area, some increase in conflict can be anticipated, but more important, as needs for port expansion continue, the inappropriateness of the school will be heightened. At the same time, the value of the site and the potential revenue it could produce will increase.

Both the Department of Education and the V.I.P.A. should make school relocation a specific goal over the next 5 to 10 years. Detailed planning should begin now to evaluate potential new sites and designs and secure funding for the new facility.

## 3.7 ENVIRONMENTAL CONCERNS

### 3.7.1 Concerns

The identification of environmental issues includes those potentially impacting upon or arising from the development and use of the study area. The creation of additional land for which permits have been secured but for which filling has not yet been completed have not been considered potential environmental concerns related to this study. These concerns have already been addressed in the related permit applications.

The areas of environmental concern are summarized as follows:

- o Land-side considerations

  - Drainage, flooding, stormwater control
  - Roads, traffic flow, parking, staging
  - Water demand and supply
  - Sewerage
  - Safety, fire and police protection

- o Aquatic considerations

  - Marine water quality, long-term effects
  - Effects on marine resources
  - Water and Power Authority plant
  - Maintenance dredging requirements
  - Potential oil pollution impacts

- o Air quality considerations

  - Engine exhaust emissions: automobiles, industrial, other
  - Dust and other fugitive particulates

- o Aesthetic considerations

  - Shore and water vistas
  - Potential visual impact on Water and Hassel Islands
  - Noise
  - Scale and inter-relationships.

### 3.7.2 Effects of Marine Pollution on Water and Power Authority

The Water and Power Authority takes some 60 to 75 million gallons per day of sea water from Krum Bay (0.3 miles west of the cruise ship dock). Most of this water is used for cooling and some is distilled to potable water for the city. Excessive turbidity impairs heat transfer in the condensers and the cooling efficiency is reduced. Some severe episodes in the past have required

that the affected unit be shut down and flushed with clean water at high pressure. Problems occur when tugs or barges are maneuvering in Krum Bay, although not all ship operations in the bay create problem conditions. Severe rainstorms with muddy runoff have caused problems too.

Petroleum products in the water cause similar problems. Although the intake pumps draw water at some distance below the sea surface, the suction creates a vortex which captures floating debris and oil. Screens remove the debris, but petroleum passes through to the plant. So far there has not been a major petroleum spill in the bay, but the Water and Power Authority is sufficiently concerned about hydrocarbon contamination that it has had to report to the Coast Guard several minor leaks and discharges from various ships in the bay.

The Water and Power Authority has its own fuel-receiving pier at the southern end of the bay.

### 3.7.3 Human Systems

Most of these effects result from the incompatibility of uses, largely an historic inheritance. They include:

- o Noise from the cargo port. The location of existing homes makes it inevitable that residents are and will continue to be affected by loading operations, particularly at night. Mitigation can be achieved by quieter equipment, and improved general efficiency in the port operation

- o Traffic congestion. The new and extended activity in the area will result in greater levels of congestion on both abutting and all island roads. This problem is not unique to Crown Bay, and requires solutions to be sought on an islandwide basis

- o Danger. Largely, this is a present situation brought about by the inappropriate use of inadequate roads, and the crowding of the school boundaries by incompatible storage areas. The circulation

systems and improved land use allocation will largely mitigate these impacts

- o Air pollution. Air pollution levels will be raised by the emissions from the additional traffic, and from the ships which will use the port. Prevailing winds bring particulates ashore. In addition, the use of the area for bulk storage of materials results in dust

- o Flooding. Flooding of the area by stormwater from upland areas is endemic due to historic development. To some degree, these impacts can be mitigated through the allocation of surface drainage rights-of-way in appropriate locations.

### 3.7.4 Natural Systems

Where natural systems are adversely impacted, man usually feels the effects. The main impacts on the natural systems include:

- o Oil pollution from bunkering. The barge system to be used, together with the Coast Guard's surveillance of the operation, should result in minimal dangers of pollution; however, the experience of many barges breaking away in the recent storm (Klaus) indicates that there is the potential for a major disaster. A major oil spill could, among other things, adversely affect the Water and Power Authority's sea water intake. The location of the barge while waiting to bunker ships is an important issue which should be critically assessed by the V.I.P.A.

- o Increased water turbidity. Short-term effects of dredging have been adequately covered in previous studies; however, the chronic turbidity resulting from prop-wash has not been addressed and could degrade large area of coral and sea grass

- o Water quality in the proposed inner harbor. Special care will have to be taken to ensure that the flushing in this inner harbor is adequate to ensure water quality appropriate for a tourist area.

# Chapter 4
# EXISTING CROWN BAY AREA

## 4.1 ZONING

The study area is zoned as shown in Drawing 002. The actual zoning designations of "C," Commercial; "B-2," Business; and "W-2," Waterfront Industrial allow for many similar uses and have relatively little impact on the area's development.

The unzoned areas created by the V.I.P.A. could be designated as "W-2" and still work well within the master planning effort. It is recommended that specific use designations be allocated within each of the zoning areas, and that future lease negotiations be guided by the Master Plan. The exception to the "W-2" zoning would be the area designated as "Hotel" on the Master Plan, which will require upgrading to "W-1," Waterfront-Pleasure.

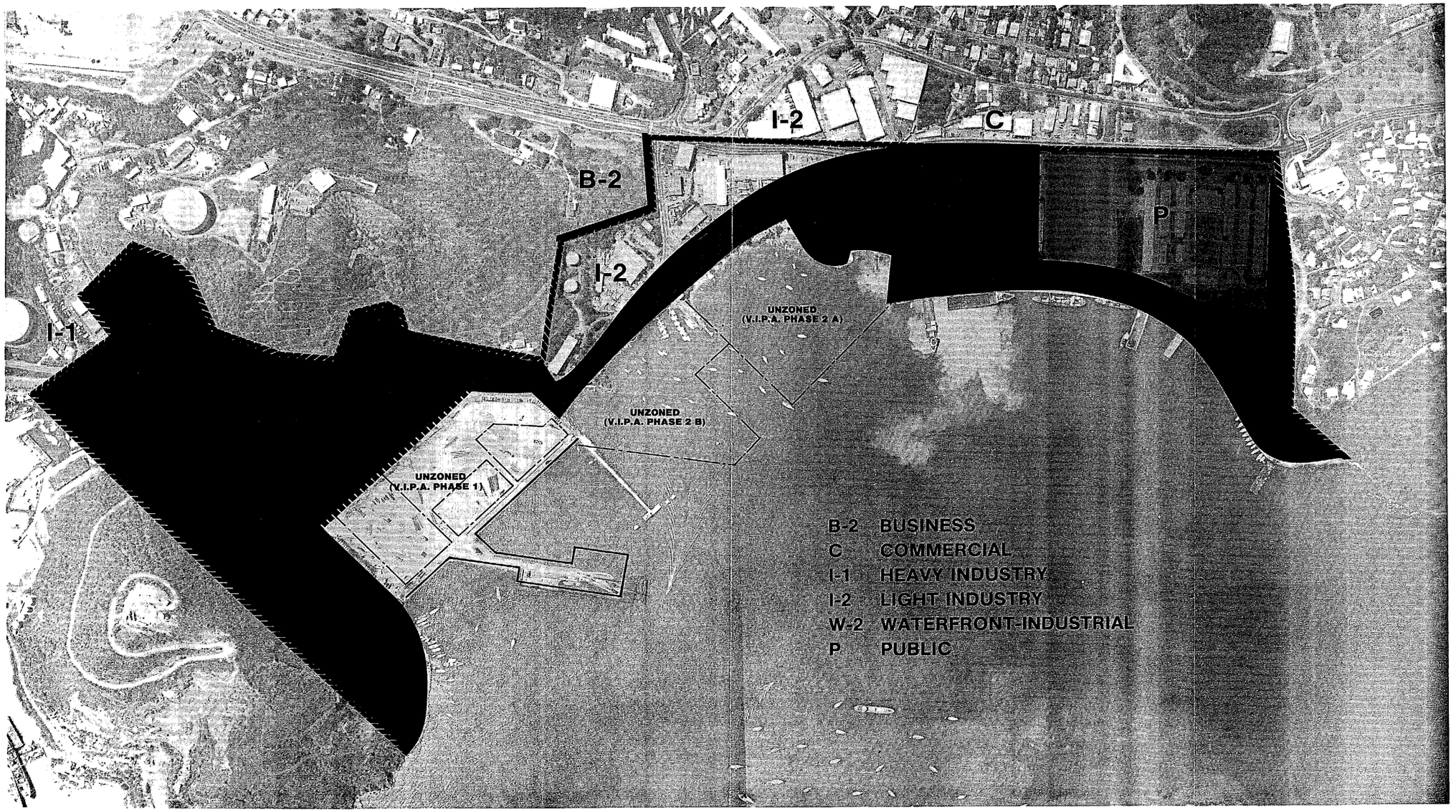
It is further recommended that the newly formed land identified as V.I.P.A. Phase 1 be zoned as "W-1" to stimulate cruise-port-related growth rather than industrial.

## 4.2 PROPERTY MANAGEMENT

The Crown Bay area is managed by a number of "landlords." The major areas of management are shown on Drawing 003 and include:

- o V.I.P.A.
- o Department of Conservation and Cultural Affairs
- o Department of Property and Procurement

This mix of management will make it difficult to implement and enforce a master plan for the area. It is, therefore, recommended that action be taken that would coordinate and enforce the Master Plan and/or the granting of exceptions to the plan. Such action could take the form of either of the following:




PLANNING AREA BOUNDARY

200 100 0 200 400

N

DESIGN
DRAWN
CHECKED
Q C

NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

**Post, Buckley, Schuh & Jernigan, Inc.**
ENGINEERS, ARCHITECTS and PLANNERS

W. F. McCOMB ENGINEERING, P.C.
CIVIL & ENVIRONMENTAL ENGINEERING

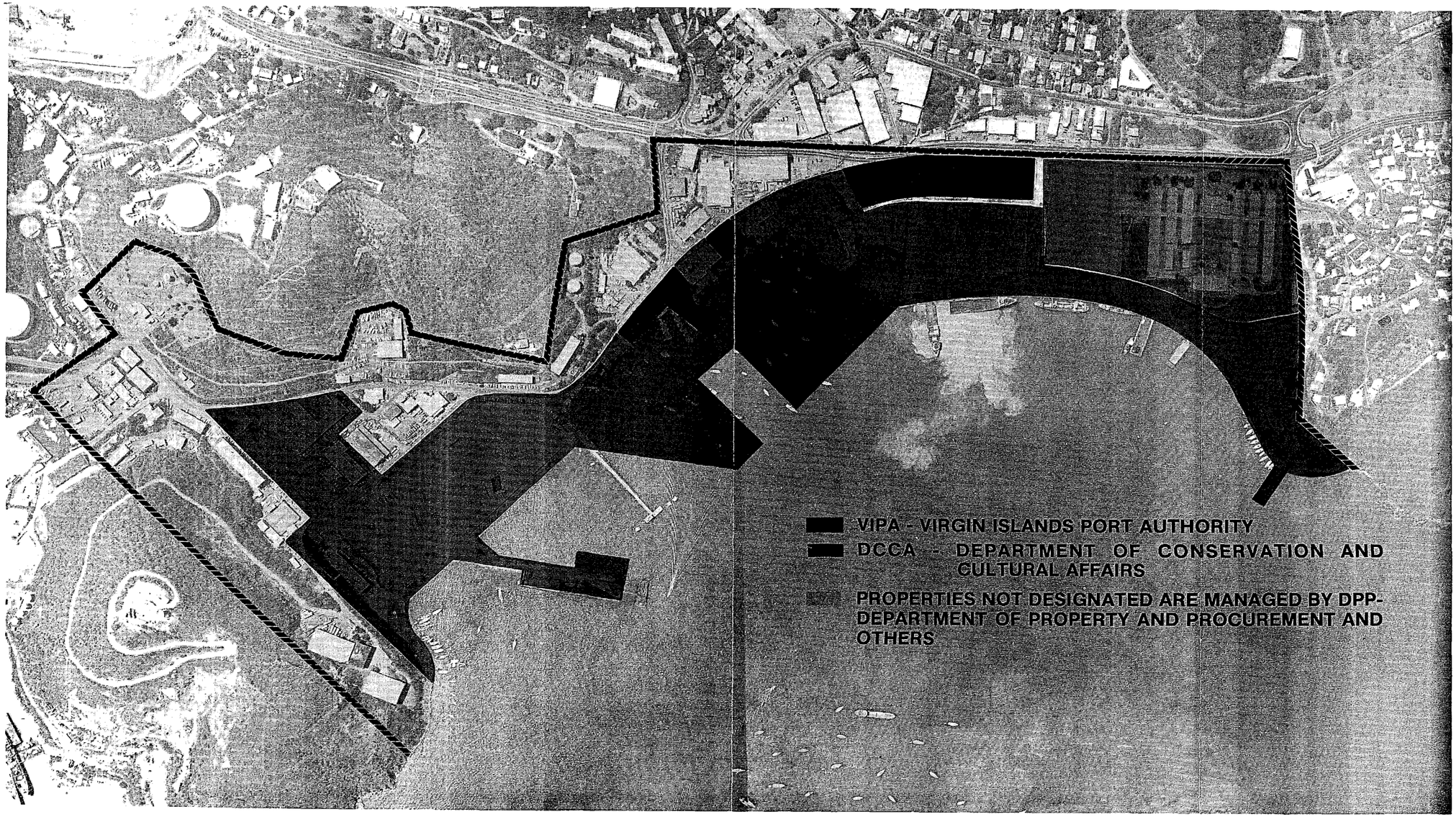
CROWN BAY AREA
**ZONING**

| NO | DATE | REVISION | APP'D BY |
|---|---|---|---|
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

JOB NO
F B NO
DATE DEC. 1984
SCALE 1-200

002

SHT ____ OF ____




PLANNING AREA BOUNDARY

200 100 0 200 400

N

DESIGN
DRAWN
CHECKED
Q C

NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

**Post, Buckley, Schuh & Jernigan, Inc.**
ENGINEERS, ARCHITECTS and PLANNERS

W. F. McCOMB ENGINEERING, P.C.
CIVIL & ENVIRONMENTAL ENGINEERING

**CROWN BAY AREA**
**PROPERTY MANAGEMENT**

| NO | DATE | REVISION | APP'D BY |
|---|---|---|---|
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

JOB NO
F B NO
DATE DEC. 1984
SCALE 1:200

003

SHT ____ OF ____

- o A review mechanism could be created between the major agencies involved
- o The Planning Office could present the Master Plan to Coastal Zone Management (CZM) for adoption as an area of special concern and thence utilize existing zoning law mechanisms for plan enforcement.

## 4.3 LEASE DATA

Drawings 004 and 005 indicate existing lease property boundary lines and the present tenant. Addendum 5 includes specific lease data.

The Cruise Port area (Drawing 004) indicates a relatively good base for future development of cruise-related ventures which are additionally beneficial to local population use. Recommended changes in this area are:

- o Property 7, now used by the National Guard, should be reserved for future development as a hotel site, due to its proximity to the cruise docks, local shopping, and marina.

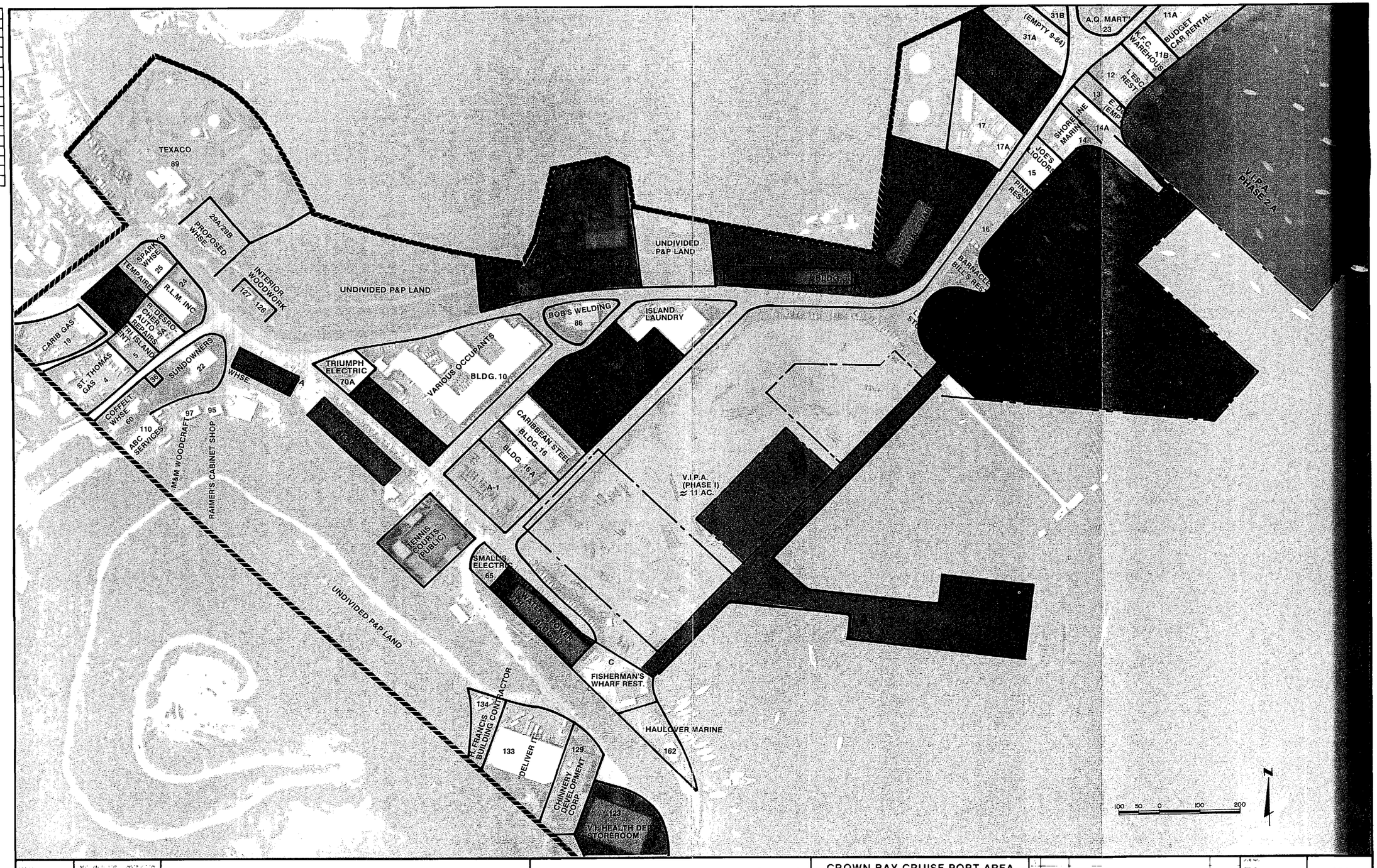
- o Any restaurant, retail outlet, or lounge east of Shoreline Marine should be offered property to relocate west of Shoreline Marine. This will enhance the Cruise Port area, giving easy access from the berths to a potentially tourist-attractive area.

The Cargo Port area (Drawing 005) occupancy is such that normal port activities and expansion are inhibited.

It is recommended that the following areas be acquired, or designated at completion of lease, for container or general cargo use:

- o The Cancryn School Area
- o Miss Opportunity site

Additionally, Property 15, now used for containers, should be reserved for future use as a general cargo and warehouse area, and the present tenant offered similar accommodations in the new Phase 2-A area.

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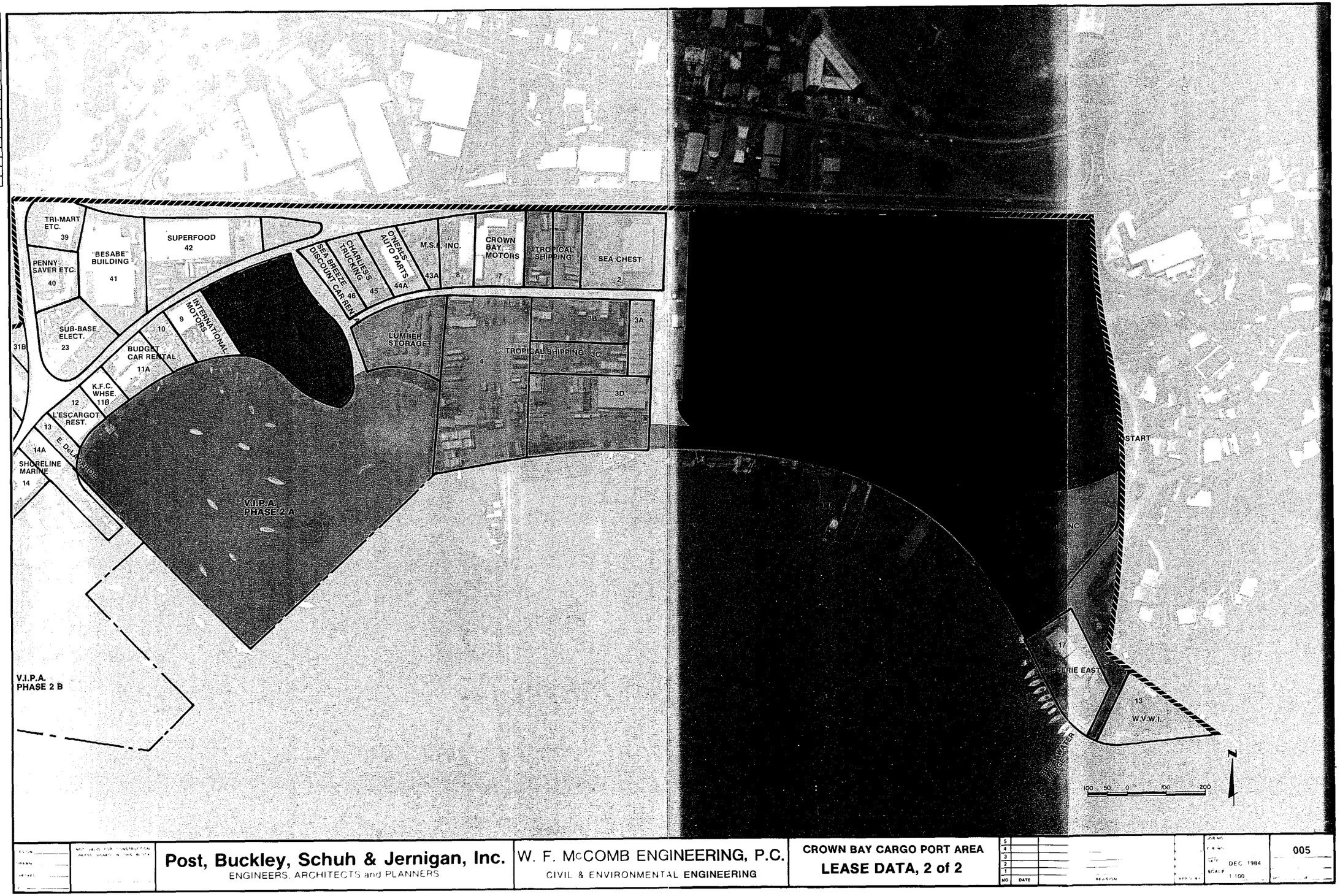


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## 4.4 LAND USE

Analysis of lease data indicates that a large proportion of the study area is at present being occupied by non-water-related uses, such as wholesale/warehousing (which can be accessed by road trailers) and existing shoreline restaurants (which could operate elsewhere, but with a reduced scenic draw-card). Many of the non-water-related uses are oriented to the automobile trade (sales yards, car rental agencies) and require only a general location close to town and/or the airport. The other major uses are food, hardware, and motor retail outlets, which afford a reasonably high rent, but are not site-specific users. The largest non-water-related user is the Cancryn School.

These uses have located here for two largely historic reasons. The first is that there is little flat land available on St. Thomas appropriate to their needs, and the locality was well placed in relation to the town to enable them to do business. The second is that, when the leases were applied for, no policy existed to restrict the land-use to port-related operations, and there was then insufficient demand by such uses to utilize the available land.

A limited degree of administrative intervention is desirable for the issuance of new leases and the renewal of existing leases to prevent an entrenchment of the haphazard pattern of present uses which has emerged over time.

## 4.5 ROAD SYSTEM

In common with the land use, the existing road system has developed in response to the perceived needs of the time. It has also been upgraded as a result of past changes to the shoreline and the need for better access to the airport.

The study area is served by two main routes: the Harwood Highway serving as an airport/town link, and a subsidiary loop (Main Road 304) running through the Sub-Base from the Crown Mountain Road intersection to the airport road. The Harwood Highway is generally a four-lane divided facility serving abutting

properties with little control of direct access, while Main Road 304 is a two-lane road with a number of substandard intersections along its length.

Both routes serve the study area as collector/distributor roads, this function conflicting, to some degree, with the Harwood Highway's main function as a primary island connector. At present, facilities for cargo facility ingress and egress are restricted (particularly from the west) and use is made of the poor quality gravel road between the Cancryn School and Frenchtown by much of the heavy trailer/truck traffic.

In 1972, Menasco-McGuinn recorded 14,531 vehicles (two-way, daily count) on Veterans Drive east of Crown Bay (16,022 at Crown Bay).(1) Their prediction for 1990 for the flow on this section of road was 37,800 vehicles, representing an annual average increase of 4 percent. In 1980, the Department of Public Works recorded 20,735 vehicles on this section of Harwood Highway, over a 12-hour (daylight) period. This is equivalent to an ADT of 29,029. A peak hour flow (5:00 to 6:00 PM) of 2,120 vehicles was recorded in 1980, with heavy trucks accounting for 4 percent of this volume. The 12-hour flow in and out of the Sub-Base was recorded at 3,855 vehicles. At the highest level of service, Harwood Highway could carry 900 vehicles per lane per hour. This recorded peak hour volume is not approaching the capacity of the road, and as this section of road is one with the highest standards on the island, it is thus obvious that there would be little utility in attempting to increase its capacity without commensurate improvements elsewhere. No public transport route exists through the study area at present.

The largest sources of traffic generation in the Sub-Base area are, at present, the government offices and motor pool. Congestion is increased by the movement of heavy plant vehicles operated by the Public Works Department in and out of the area, and water trucks drawing on water at the the Public Works Department standpipe. Should the decision be taken to centralize the government offices elsewhere, a significant reduction in daytime traffic would result.

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(1)Menasco-McGuinn Associates, Virgin Islands Highway Functional Classification and Needs Study, August 1973.

## 4.6 UTILITIES

Drawing 006 indicates the utilities within the study area. Water supply, sewer service and power supply are adequate for the expansion plans of the area, and are easily extendable into the new port areas being created.

Utilities do not inhibit growth and expansion of the Crown Bay Area; however, power outages and water shortages do. Little can be done about power failures due to extraordinary natural causes; however, the consistency of the water supply can be enhanced by providing surge tank storage prior to area distribution. This storage could be accomplished by rehabilitation of existing tanks or construction of new tanks for this purpose.

It is further recommended that the V.I.P.A. provide water distribution into all new port areas. A master meter would allow V.I.P.A. to pay the Public Works Department for the water, and individual users in this network would pay V.I.P.A. An appropriate surcharge would be added to the user's bill to cover maintenance and operation of the system.

## 4.7 DRAINAGE

Drawing 006 shows the position of the three main stormwater guts. The main catchment (#10) of 254 acres drains into the bay in the area of Phase 2A, now being prepared to receive dredge spoil. $CH_2M$ Hill[1] calculated that a culvert of 256 square feet (an opening of 6 feet by 44 feet) would be required to lead the water generated from a 25-year storm under Veterans Drive. The existing culvert measures 22 square feet west of the Cancryn School; catchment #11, measuring 179 acres, is predicted to require an opening of 216 square feet to accommodate flows from a 25-year storm. At Shoreline Marine, a culvert of 84 square feet opening would be required to pass stormwater from a catchment of 38 acres. Observations of the April 18, 1983

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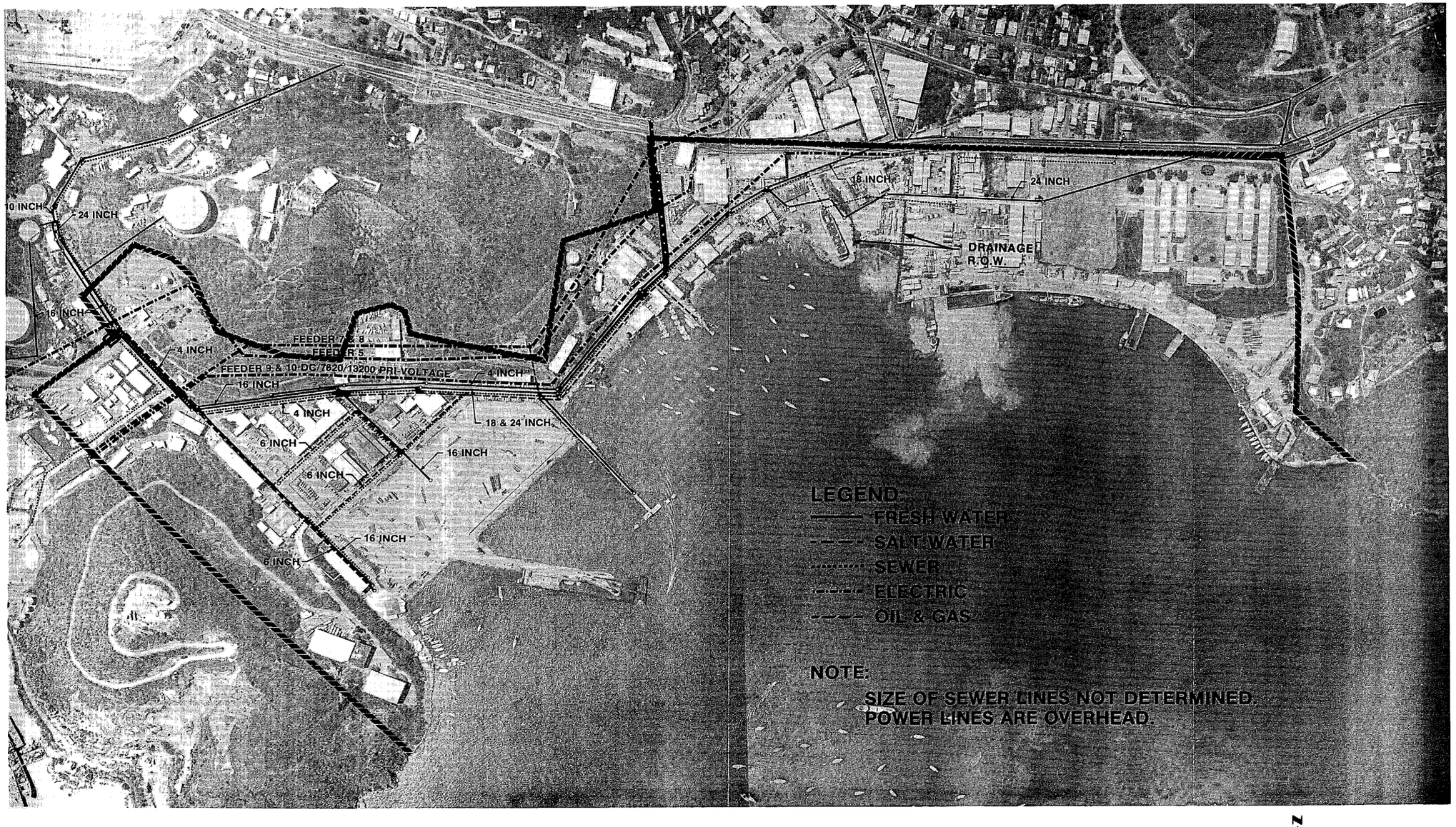
[1] $CH_2M$ Hill, A Sediment Reduction Program D.C.C.A., January 1979.

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storm (which exceeded a predicted 100-year return rainfall) indicated that water in the Crown Bay area found its way to the sea by sheeting across the land, entering the sea over the bulkhead in a flow of up to 18 inches deep. It is beyond the scope of this study to design a detailed system of storm flow mitigation, and it is beyond the financial capabilities of the Virgin Islands to install structures capable of accommodating such catastrophic floods.

The following measures are recommended to reduce the extent of future damage and danger to life resulting from stormwater runoff:

- A stormwater drainage easement should be set aside between Veterans Drive and the sea large enough to permit the construction of an open channel able to accommodate the flows from a 25-year storm

- Aprons should be constructed across the seaward end of these open channels to permit these flows to enter the sea

- A subsidiary secondary system should be planned into the area whereby an open corridor, such as a road, should be provided to pass flows of an up to 50-year flood along the ground surface and into the sea

- Buildings should be set back from this corridor to permit the flows from a 100-year flood along this corridor

- In areas where flows are to be sheeted across the ground, care should be exercised to ensure that the surface does not encourage scour and resultant deposition of silt into the sea.

Additional recommendations are provided in Section 6.1.

H-14/jj

# Chapter 5
# MASTER PLAN

## 5.1 PLANNING CONSIDERATIONS

The development of St. Thomas was initiated by the availability of an excellent anchorage and has since depended on its harbor as a lifeline to the outside world. Changing transportation technologies and world politics have affected the island's economic climate, but the harbor always played a key role in Charlotte Amalie's prosperity.

In the scramble for tourist development, it should be remembered that Charlotte Amalie and its character and history play a vital role in sustaining the island's magnetism for tourists. The danger is always present that its very success will be its destruction, and major projects which are not considered in this context could sacrifice long-term viability on the altar of narrow-based expediency. In the same way, the whole experience of arrival in the islands needs to be nurtured. The route from the airport to town does little to enhance this experience. The present characteristics of Sub-Base and Crown Bay do little to instill in the cruise ship visitor the feeling that he has arrived in an "island paradise."

The implementation of the Crown Bay Master Plan can assist in mitigating the present position; however, a strategic policy is vital to the implementation of the plan, which must recognize the decisions which have already been made with regard to the area.

A study of the present land uses abutting the cruise ship dock indicate that all uses, except Danny's Restaurant, are generally incompatible. Around the Cargo Port, the school and the fringe of Frenchtown rate as incompatible uses.

To rationalize the planning process, the study area was divided into two zones, the Cruise Port and the Cargo Port, which interface at the western end of the Cargo Port, at the intersection abutting Shoreline Marine. This line, which forms a natural and convenient break point between the two dominant

use zones, has been established to determine the nature of uses which should be encouraged or discouraged in the zones.

Whereas the uses abutting the Cargo Port will, over time, be converted or assimilated into the industrial nature of the zone, it is clear that determined measures must be taken to enhance the cruise ship facility through the introduction of large compatible and supportive uses, particularly in view of the industrial nature of the uses along the Harwood Highway, the visitor's route to town. Such facilities would assist in creating an image more in keeping with the expectations of a cruise ship visitor.

Figure 5-1 lists the uses considered compatible with the two district zones. Based on this matrix, restaurants, a hotel and marina rate highly as uses supportive to the cruise ship dock. These uses would:

- Generate excitement and activity, providing a focus for the visitor
- Create a venue where water-orientated day tours can be based to serve the cruise ship visitors
- Attract other tourist-oriented businesses to the area, and aid in the general rehabilitation of the area
- Generate a night-time population and activity to encourage cruise ships to extend the length of their stays into the evening.

## 5.2 GENERAL DESCRIPTION

The Master Plan generally shows the Cargo and the Cruise Ports. The elements making up the Master Plan are described in the following subsections.

### 5.2.1 Cargo Port

- The area of reclaimed land from Frenchtown to Shoreline Marine is allocated to cargo facilities, with a progression of uses from the dock apron to the Harwood Highway

# LAND USE COMPATIBILITY MATRIX

| LAND USE ELEMENTS | LEVEL OF COMPATIBILITY WITH: Cruise Ship Dock | | | Cargo Handling Facility | | | LEVEL OF WATER Dependency | | |
|---|---|---|---|---|---|---|---|---|---|
| | HIGH | MED | LOW | HIGH | MED | LOW | HIGH | MED | LOW |
| CRUISE SHIP DOCK | ● | | | | | ● | ● | | |
| HOTEL | ● | | | | | ● | ● | | |
| MARINA | ● | | | | | ● | ● | | |
| RESTAURANTS | ● | | | | | ● | | ● | |
| TOURIST STORES | ● | | | | | ● | | ● | |
| GENERAL STORES | | ● | | | ● | | | | ● |
| OFFICES | | ● | | | ● | | | | ● |
| RESIDENTIAL | | ● | | | | ● | | | ● |
| SCHOOLS | | | ● | | | ● | | | ● |
| WAREHOUSES | | ● | | ● | | | ● | | |
| SERVICE INDUSTRIAL | | | ● | | ● | | | | ● |
| LIGHT INDUSTRIAL | | | ● | | ● | | | | ● |
| CARGO HANDLING | | | ● | ● | | | ● | | |
| FERRY DOCK | ● | | | | | ● | ● | | |

FIGURE 5-1

- Container activities would be located behind the apron, with warehousing in the next sub-zone. A band of port-related commercial/industrial land is envisaged along the southern edge of Harwood Highway

- The dock is extended westwards, providing a breakwater to the inner harbor while providing facilities for a RO/RO operation in an appropriate location

- The relocation of the Cancryn School is recognized in the final phases of the plan, permitting these uses to be extended eastwards across this land

### 5.2.2 Cruise Ship Port

- From the new cruise ship dock eastwards, a band of tourist-related activities is proposed, with orientation along the waterside promenade. These would start with the shopping center proposed in Phase 1, the ferry dock, the hotel, associated stores and restaurants, and the marina as a termination point on the east

- These tourist facilities could center on the hotel, which would not only provide accommodations for home-port cruise ship passengers and charter boat guests, but also a communications center and offices related to the zone activities. The hotel rooms are envisaged to be built along the slopes of the hill on and behind Gramboko Inn, and would be linked to the shoreside facilities over Route 304 via a pedestrian bridge within the hotel

- The marina would abut the hotel to the east, and would provide full charter services and associated retail outlets. It would be contained to the east by a boat storage and repair area, which, together with a green belt along the water's edge, would help provide a buffer between the tourist and cargo activities

- o In the area south of the hotel and parallel to the two existing cruise ship berths, the docks would be tailored to accept home-porting vessels - one medium-sized cruise ship, and at least two mini-cruise ships.

- o A fringe zone is designated north of Route 304 within which (with the exception of the hotel) no specific proposals have been made, but where redevelopment will be actively promoted.

## 5.3 ROAD SYSTEM

The CZM permit for Phase 2A of the Crown Bay development states:

> "The Port Authority, in conjunction with the Dept. of Public Works, the Dept. of Public Safety and V.I. Planning Office, shall devise a plan of action to handle the traffic in the Sub-Base area which shall be submitted to this committee for its approval."

This master plan must thus assume the responsibility for the areas traffic planning in the area, while acknowledging that this implementation of the proposals will not be an easy matter.

What must be recognized in this issue is that expecting the island's roads to absorb all the traffic demands placed on them at a high level of service is not practical, and expanding a portion of the system in one area will only result in displacing the problem to a constriction in the system elsewhere. Some attempt at balance is the only attainable goal and, inefficient though it is, a degree of traffic congestion on the island is, and will remain, a fact of life. The proposals made are thus of a traffic engineering nature: improving existing facilities in a way which will ease, rather than free up the expected flows. The most cost-effective approach is to attempt to reduce the possibility of localized constrictions to flow resulting from the added level of activity generated by the port's expanding facilities. The traffic plan presented has been developed on this basis. The improvements have been developed to recognize that:

- o The Harwood Highway is an important component of the island's road system, and the flow of traffic on this road should be disrupted as little as possible.

- o A high degree of flexibility must be built into the road network to enable it to accommodate changing needs.

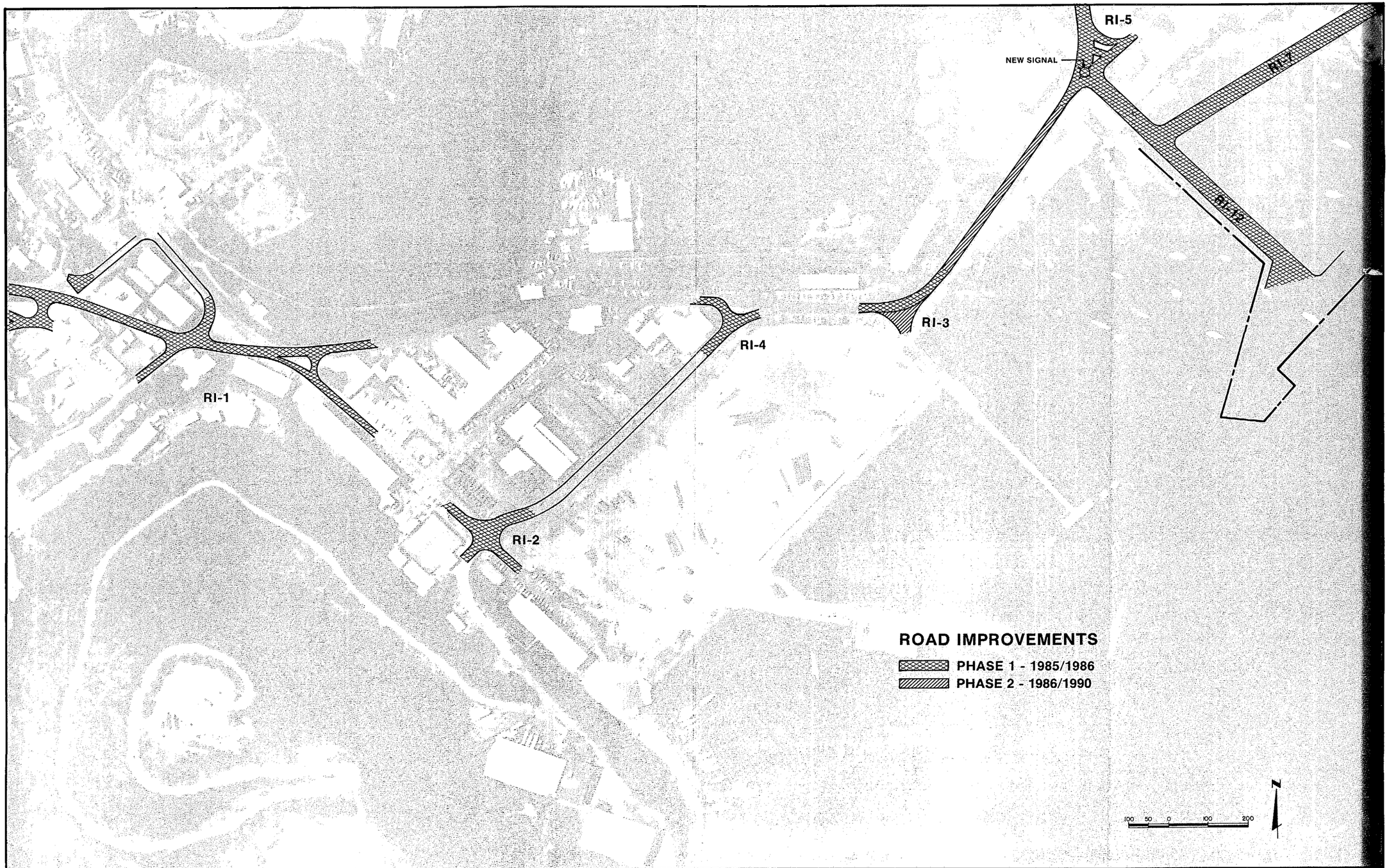
- o The existing roads must be utilized to a maximum degree, while accommodating the flows from the new facilities.

- o Improvements will be of a traffic engineering nature. The island's roads will continue to experience an escalating extent of congestion, and the proposals should not create new bottle-necks in the system.

5.3.1.1 Cargo Port System (see Drawing 007)

A major signal-controlled intersection is proposed at the existing Sea Chest road. Initially, the median island would be opened to allow the free flow of traffic out of the area, but with no eastbound right-hand turn. Eastbound traffic would be accommodated at the Crown Mountain Road intersection, via a new road to be installed between L'Escargot and Shoreline Marine. A parallel collector/distributor road would be built parallel to Harwood Highway, linking the Sea Chest Road to this new road. As a temporary link, a road would be installed to connect Route 304 to the east of the Inspection Depot.

The need for a right-hand turning slot to be installed at the Sea Chest entrance would be accommodated in later phases by either swinging the two east-bound lanes northwards (involving the partial demolition of a building) or by installing a left-turn/right-turn slip road north of the Harwood Highway behind these buildings. At this stage, it could be necessary to close off the present intersection at Super Foods to prevent access to the Harwood Highway.

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5.3.1.2 Cruise Ship (Sub Base) (see Drawing 008)

A number of minor intersection improvements are proposed. The two most significant changes would be the straightening of Route 304 at the Texaco/Solid Waste corner, and the improvement of sight distance in the curve below Gramboko Inn. The future installation of a third lane from this point to the Crown Mountain intersection at Harwood Highway is also contemplated. A traffic signal would be installed at the new intersection at L'Escargot to accommodate the turning movements at this point.

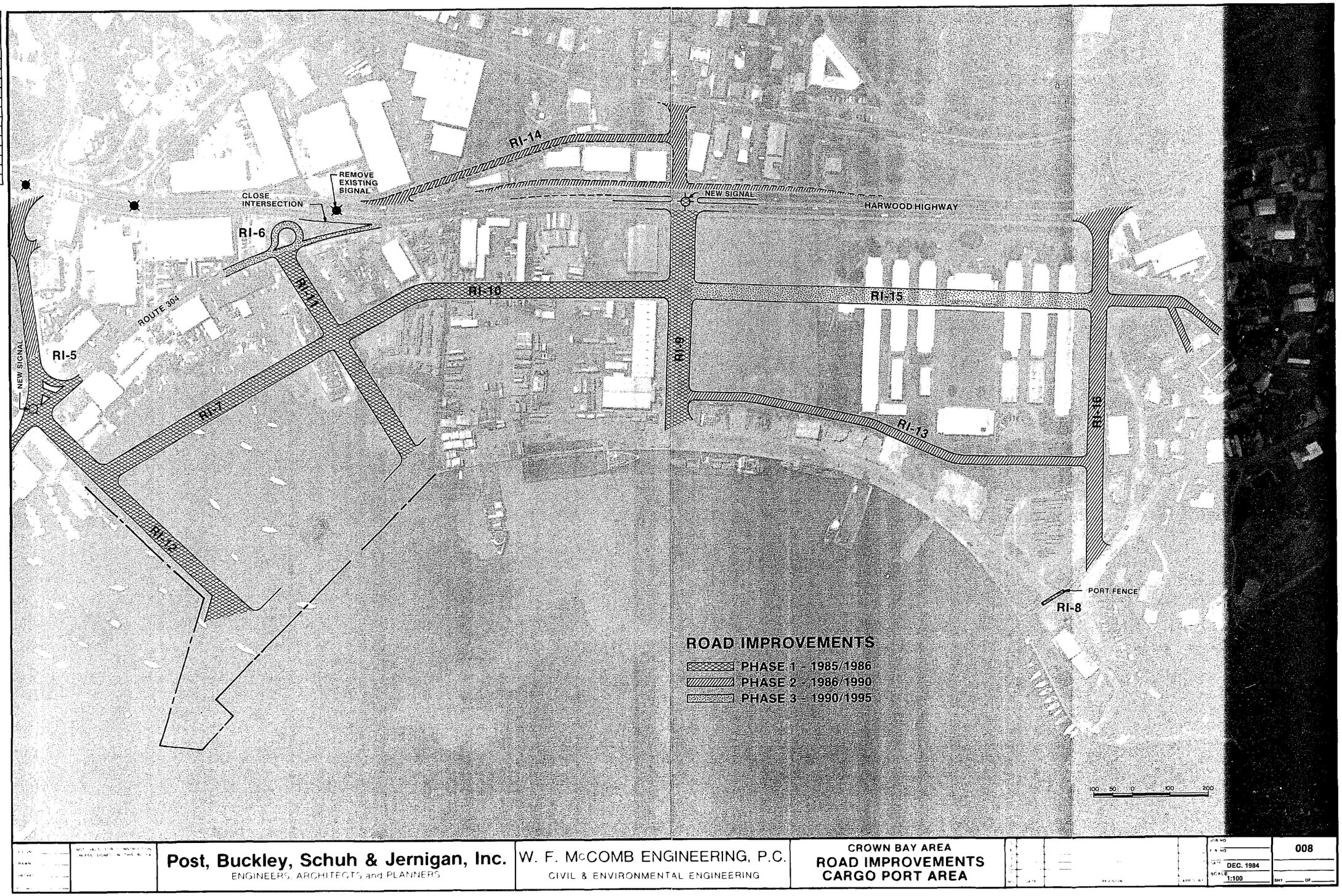
No public transport route exists at present to or through the Sub-Base area. With the inevitable increase in traffic congestion downtown as a result of the new cruise ship port, and the increase in workers in the port, the establishment of a new bus route would be desirable. This route could run to the airport and back, replacing the existing spur which serves the airport from Harwood Highway. Certain of the road improvements should be made before this route is established.

5.3.2 Capital Cost of Improvements and Funding

The Master Plan recommends various road improvements which are the only recommended items that require new funding. All recommendations pertaining to V.I.P.A. Phase 2-A and Phase 2-B are funded within V.I.P.A.'s general funding. This funding includes roads within these areas, but not roads within the existing cargo port.

The total capital cost of the road improvements outside of the port, which are shown on Drawings 007 and 008, is $500,000. Preliminary indication is that federal highway funding could be used for these improvements.

The total capital cost for road improvements within the existing Cargo Port is $650,000. It is expected that funding for this item will be within the V.I.P.A.'s general budget.

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**CARGO PORT AREA**

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The recommendation of moving and rebuilding the Cancryn School is contingent upon further in-depth study which should particularly address funding of the move.

## 5.4 PEDESTRIAN SYSTEM

This is a valuable, if small, component of the Master Plan in the Cruise Port area. It revolves around the water-side promenade, starting at the cruise ship dock, running eastwards through the hotel site and marina, a distance of 1,500 feet. To this promenade would be attached all the uses which would make it into an exciting and safe place to walk, shop and eat. East of the marina, the promenade would terminate on a sidewalk alongside the public road, enabling those visitors who choose to walk to town to do so in safety. A minor extension of this route west of the cruise ship dock would terminate in a nature trail along the lower slopes of Haypiece Hill.

## 5.5 CRUISE PORT

The Cruise Port is west of the port's cargo operations. The V.I.P.A. has constructed a cruise vessel berth and approximately 11 acres of new upland area which is devoted to commercial development. Additional development will reshape the area between the Cruise Port and the Cargo Port.

The major features of the Cruise Port will be:

- The cruise berth
- The upland commercial area
- A marina
- A hotel.

The Master Plan recommends the following:

- Road improvements to sustain increased traffic

- Allocation of the marina area for no less than 100 boats

- Allocation of an area for construction of a hotel

- An interconnecting promenade to link the marina area with the cruise berth.

The proposal, as shown in Drawing 010, features:

- A home-port berth constructed as a marginal wharf on dredged material, designed to accommodate a 500-foot vessel on its west side and smaller vessels on its east side

- A hotel area north of Route 304 which extends over the road and encompasses a good part of the home-port berth area

- A small boat harbor of approximately 6.3 acres supported by an upland area of approximately 2.3 acres

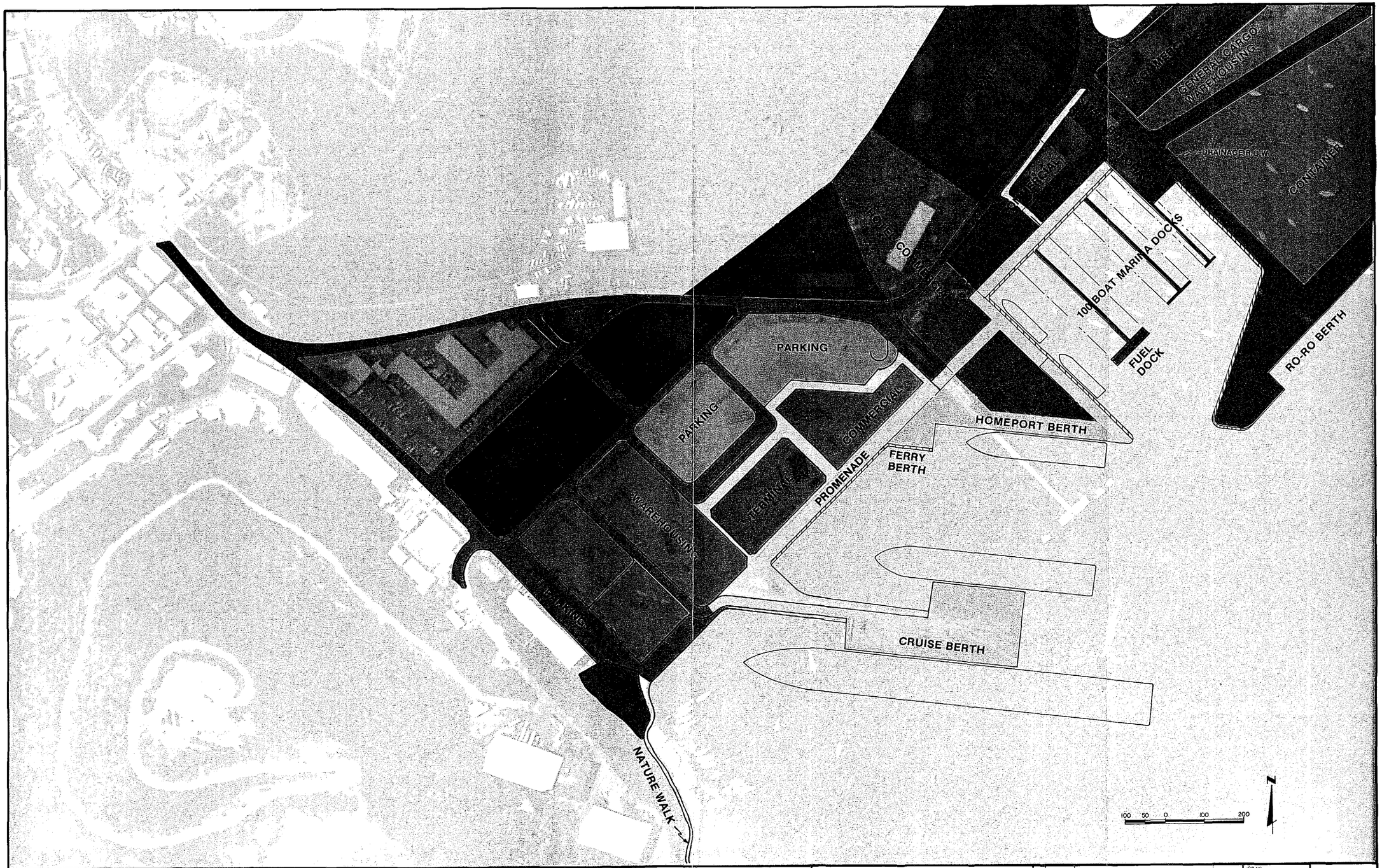
- New land fill of approximately 5 acres.

The proposal complements the cruise berth upland area as planned by V.I.P.A. The general allocation of this area is fixed, with only minor variations possible. It is recommended that the following suggestions be reviewed by V.I.P.A. for possible action:

- Commercial area parking does not appear adequate. Enlargement of public parking areas could be beneficial.

- Shore-front area in the warehousing area could be allocated to commercial-retail use to give a better image to tourists debarking from cruise vessels.

- The promenade planned for eastward access to the marina should also extend westward to a nature walk and the businesses in that area.

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- The V.I.P.A. terminal building should have its western side dedicated to commercial-retail space, thereby providing a financing channel whereby private capital could be used for part of the construction costs of this public building.

## 5.6 CARGO PORT

The existing cargo port, as described in Section 4.2, is being expanded by a planned land fill operation that will add approximately 10 acres of new land and over 700 feet of new marginal wharf space. The Master Plan for this area, as shown in Drawing 011, incorporates the following recommendations:

- The east end of the port should be secured by a port gate so as to prohibit public access to the aprons of Berths 1 and 2.

- A 30-foot to 40-foot strip of the south portion of the Cancryn School should be acquired and a 20-foot to 30-foot road constructed. The road should be fenced on its north side to act as a protective barrier to the school grounds. The addition of this road will permit a northerly movement of cargo over the berth, through the general cargo area and out of the port through the road system. The apron area will then see less traffic and will thereby improve cargo handling efficiencies in the areas of Berths 1 and 2.

- The main port entrance road (running south from the Sea Chest property) should be improved from its present west boundary up to and including its east boundary which is the Cancryn School fence. This increased road width will be required to handle the new traffic generated by the expanded port.

- The existing east-west port road, running from Tropical Shipping to M.S.I., should be widened to at least 40 feet and extended through the new Cargo Port to a new east port entrance road.


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**CARGO PORT**
**MASTER PLAN**

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- The "Miss Opportunity" site should be acquired and the structure removed.

- A new center port road should be constructed with an adjoining drainage right-of-way. A port gate should be installed to prevent public access to the port proper, if and when considered desirable.

- The easterly end of the V.I.P.A. Phase 2-A construction should be extended to form a RO/RO berth which would serve the many RO/RO vessels that call on the port. This extension should be designed to also serve as a breakwater for the small craft harbor. The apron for Berth 4 should be no less than 80 feet wide to accommodate container offloading and container-handling vehicles

- Should efforts to acquire the entire Cancryn School property be successful, then the main port east west road should be extended across the property as shown. Additionally a west port entrance road should then be constructed so as to fully interconnect all port roads

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# Section 6
# RECOMMENDATIONS

## 6.1 IMPLEMENTATION STRATEGIES

The most wisely conceived plans require an appropriate strategy for implementation to assure their success. Crown Bay, while exhibiting most of the attributes to achieve positive results, has problems which need sympathetic strategies. These are:

- The land is all government-owned, thus reducing the operating ability of free market forces. Three government agencies control this land, each with differing objectives and priorities.

- Public funds for capital projects and land or lease acquisition are limited, restricting the options for implementing the Master Plan.

- Short-term revenues from certain operations might not be in the long-term benefit of the island.

The recommendations which follow recognize these constraints and attempt to foster the goals of the development as set out in Section 1.1:

- An Ad-hoc Committee should be established to coordinate the implementation of the Master Plan. Members of this Ad-hoc Committee should include:

  - The Commissioner of Commerce
  - The Commissioner of Public Works
  - The Commissioner of the Department of Conservation and Cultural Affairs
  - The Commissioner of Property and Procurement
  - The Director of Planning Office
  - The Executive Director of V.I.P.A.

- This Master Plan should be accepted as a policy document by the Ad-hoc Committee and forwarded to the CZM Commission. It is further recommended that the Commission consider adopting this Master Plan as a guide to assist in its future assessment of project applications within the area.

- A memorandum of understanding should be developed by members of the Ad-hoc Committee.

- The Ad-hoc Committee should have, inter alia, the following responsibilities:

  - Develop and coordinate a common policy for the approval of lease extensions and granting of new leases in the area.

  - Examine the government's present leasing policies to establish what impacts the length of the leases, and the eventual surrender of the buildings have on the quality of the buildings and the area in general.

  - Develop a policy for the gradual rehabilitation of the "Fringe Zone" abutting the Cruise Port and the Greater Crown Bay area.

  - Devise a mechanism for the funding and implementation of road and other improvements.

- The Ad-hoc Committee should consider commissioning the following additional studies:

  - Transportation improvements. The detailed Phase 2 and 3 improvements should be studied, including traffic flow, public transportation, other design criteria, and the funding source for this work.

- Stormwater flooding. To lessen the extent of damage which would result from future floods, plans should be developed for the most cost-effective way of transmitting upland flood water to the sea.

- Cancryn School. To further investigate the relocation of the school, a study should focus on specific sites and financial strategies.

- Urban design. A policy plan for the area should be developed to assist the Ad-hoc Committee's assessment of functional, aesthetic and locational aspects of elements of development proposals as they arise.

- A Master Plan should be prepared to guide future land use in the Greater Crown Bay area.

## 6.2 EMPLOYMENT GENERATION

### 6.2.1 Assumptions

A primary goal of this plan was stated in Section 1.1 to be the promotion of development which "offers an optimum return on investment in the short- and long-term, measured against additional employment opportunities and economic benefits." Employment is, without doubt, a basic measure of socio-economic health. It would be too idealistic, however, to assume that the recommendations set out in this study could be translated directly into a predicted number of additional jobs, as it is not possible to generate such a simple equation. The job opportunities to be derived from the recommendations in this study which are employment generators are estimated in Table 6-1.

In examining these employment figures, three points should be remembered. First, they can pretend to be only estimates and not firm predictions. Second, all employment opportunities outside of government depend upon private enterprise providing the capital to establish the business as well as to bring

Table 6-1

JOB OPPORTUNITY ESTIMATES

| Component | Unit | # | Multiplier | Jobs Subtotal | Jobs Totals |
|---|---|---|---|---|---|
| CARGO AREA: | | | | | |
| Warehousing | Acres | 10 | 5/Ac. | 50 | 50 |
| Containers | | | | | |
| HOTEL: | | | | | |
| Staff | Rooms | 200 | 1:1 | 200 | |
| Indirect | Primary Jobs | 200 | 1:1 | 200 | 400 |
| MARINA: | | | | | |
| Staff | Boats | 100 | 15:1 | 6 | |
| Boats - "Bare" | One | say 30 | 25:1 | 12 | |
| Crew | One | say 30 | 1:25 | 75 | |
| Other | One | 40 | 1:05 | 20 | |
| Indirect | Primary Jobs | 107 | 1:15 | | 273 |
| CRUISE PORT: | | | | | |
| Commercial Center | 126K Sq. Ft. | | 850:1 | 150 | |
| Home Port | Two | | 1:25 | 50 | 200 |
| | | | | Grand Total | 923 |

it into production. It is then up to the managerial and other employees to ensure that the undertaking is profitable, for without the profit motive, there will be no jobs. The ratios used in the calculations in Table 6-1 are thus subject to the levels of productivity expected by the individual investor, and can vary widely.

The third issue is that many of the businesses which could occupy the new land and water areas being created in this study area could be those already operating elsewhere on the island. The number of jobs shown might thus not be new jobs, but could include relocated ones as well.

Where indirect jobs are estimated, the location of these could be anywhere on the island, and would include taxi drivers, retail store assistants, etc.

### 6.2.2 Findings

It can be concluded that the facilities proposed will increase the productive capacity of the island economy by creating about 900 permanent jobs. These jobs will encompass all levels of expertise.

By far the greatest generation would be from a hotel/marina complex, where about 300 primary job opportunities could occur, spinning off into about 350 secondary positions. By their very nature, cargo operations are not labor intensive, and the new cargo facility is likely to generate about 50 jobs.

Should home-porting establish in the Cruise Port, the labor-intensive crew positions would likely come with the ships, and in early years not be filled from local labor pools. This situation could change over time. The largest associated multiplier would be from indirect employment, on the order of 200 to 300 workers gathering partial income related to home-porting. This employment would equate to approximately 50 permanent jobs.

The grand total of 923 workers represents 2 percent of the Virgin Islands 1983 total labor force of 43,260.

## 6.3 GOAL ACHIEVEMENT

Figure 6-1 contains a matrix which examines how each of the main components proposed for the study area rates with the set of goals contained in Section 1.1. Examination of this matrix reveals that the recommendations are generally positive and reflect an appropriate allocation of the island's resources.

H-14/JJ

## GOAL ACHIEVEMENT MATRIX

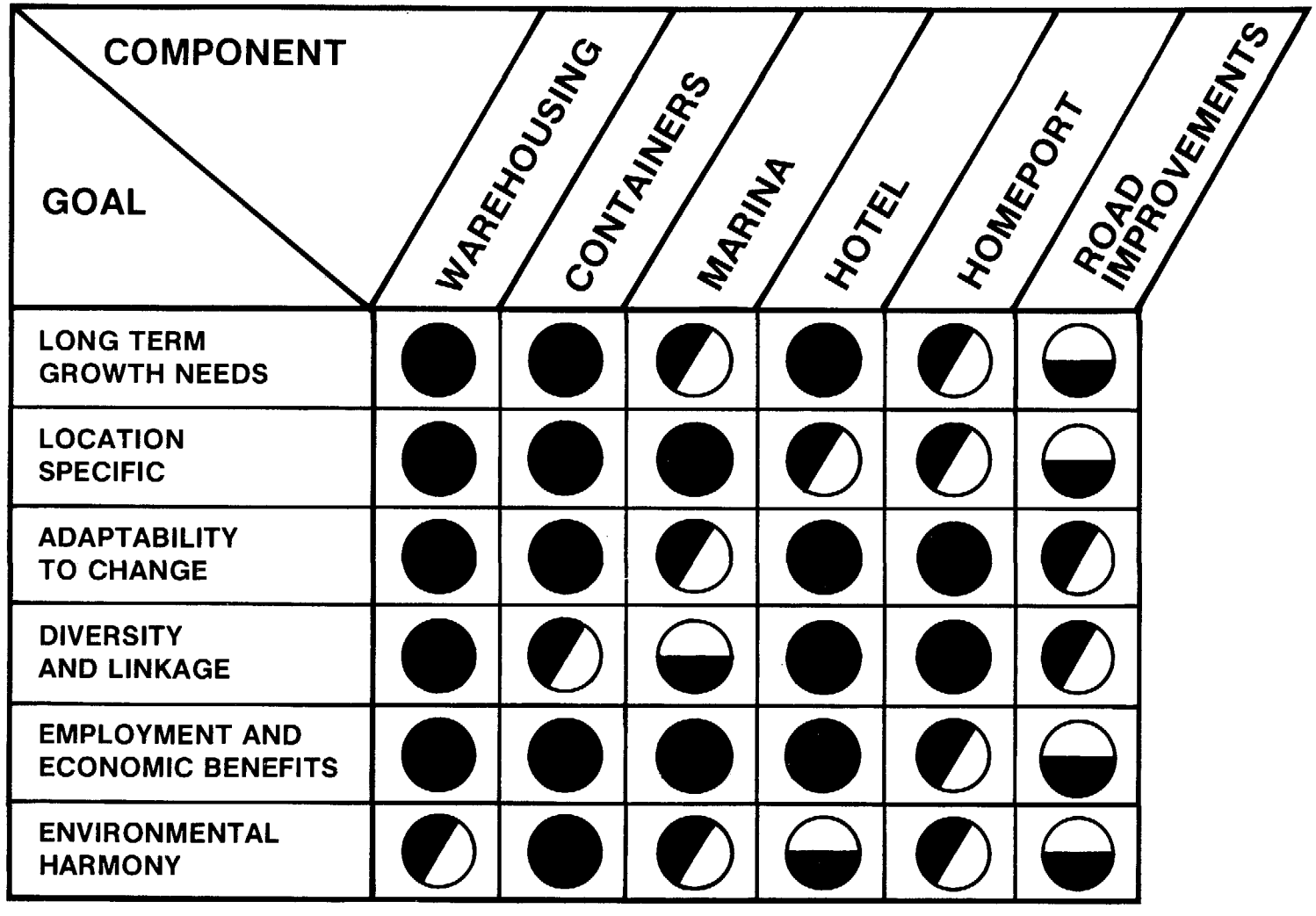



FIGURE 6-1

CROWN BAY PORT AREA
MASTER PLAN

ADDENDA

- Addendum 1 - Cruise Line Interviews
- Addendum 2 - Cruise Line Routings
- Addendum 3 - Code of Federal Regulations, Title 3, Parts 154 to 156
- Addendum 4 - Federal Register, Reception Facilities Proposed Rulemaking
- Addendum 5 - Schedule of Land Descriptions
- Addendum 6 - References

# CROWN BAY PORT AREA
# MASTER PLAN

## ADDENDUM 1

## CRUISE LINE INTERVIEWS

- **ROYAL CARIBBEAN LINES**

  - RCL makes approximately 140 calls per year to St. Thomas.
  - They have no present plans for expansion or additional services to St. Thomas.
  - RCL plans to continue using the West Indies Company facilities as they are very satisfied with the service they receive.
  - They have no present intentions of using the new V.I.P.A. cruise dock, especially since there are no upland facilities.
  - Most of their fuel is supplied from Norway and they only do partial bunkering from Miami sources.
  - They would bunker in St. Thomas if the quality of the fuel were high and the price cheaper then their Norwegian source.

- **NORWEGIAN CARIBBEAN LINES**

  - NCL has had communications with V.I.P.A., giving them the requirements for berthing of the Norway.
  - They will consider berthing of the Norway at the new V.I.P.A. cruise pier as long as specifications for draft are met.
  - There are no present plans to expand schedules to St. Thomas, over the next two (2) years.
  - They would be interested in bunkering in St. Thomas, if the quality of the fuel met their standards and if the price were lower than their existing contract price in Miami.
  - NCL feels that there will be no need to berth any of their vessels (other than the Norway) at V.I.P.A. cruise berth. Since NCL is one of the largest customers of WICO, they receive

preferential treatment and WICO always provides space for their vessels.

- **HOLLAND AMERICAN LINE**

  - The Rotterdam visits St. Thomas during their Caribbean season which is October to December and April to May.
  - Has no present plans to expand service, however, completion of the new airport might have an effect on their future planning.
  - The Rotterdam would use the new Crown Bay berths.
  - Bunkering is now done in St. Martin, but definite consideration would be given to bunkering in St. Thomas, if the price were competitive.

- **CHANDRIS LINES**

  - They would consider using St. Thomas for fly and cruise operations if all conditions favorable (airport, airlines and port facilities). Air service is their main concern.
  - Now bunkering at Aruba because of price. Would consider St. Thomas if price were better.

- **COMMODORE LINES -**

  - Would not now consider St. Thomas as a home port due to expense of flying crew members in and out, expense of water, assumed extra expense in provisioning and lack of nightlife for passengers.
  - Still considers St. Thomas as number 1 port of call.

- **COSTA CRUISES**

  - Would consider St. Thomas as a homeport when airport is expanded and conditions at port are better.

- Will continue to use St. Thomas as port of call.

- **HOME LINES**

  - Their vessels call on St. Thomas on a seasonal basis.
  - New vessel under construction, will be in service in 1986. Initially, it will be in the Bermuda route and then, most likely, in the St. Thomas route, sailing from Port Everglades.
  - If the airport expansion were complete and V.I.P.A. provided adequate facilities, they would not rule out St. Thomas as a home port.
  - Fueling is now done in Aruba, Curacao or the Barbados. If not during the route, then in Port Everglades. They would bunker at St. Thomas if the price were right.

# CROWN BAY PORT AREA
# MASTER PLAN

## ADDENDUM 2

## CRUISE LINE ROUTINGS

Chart A

# THE CARIBBEAN

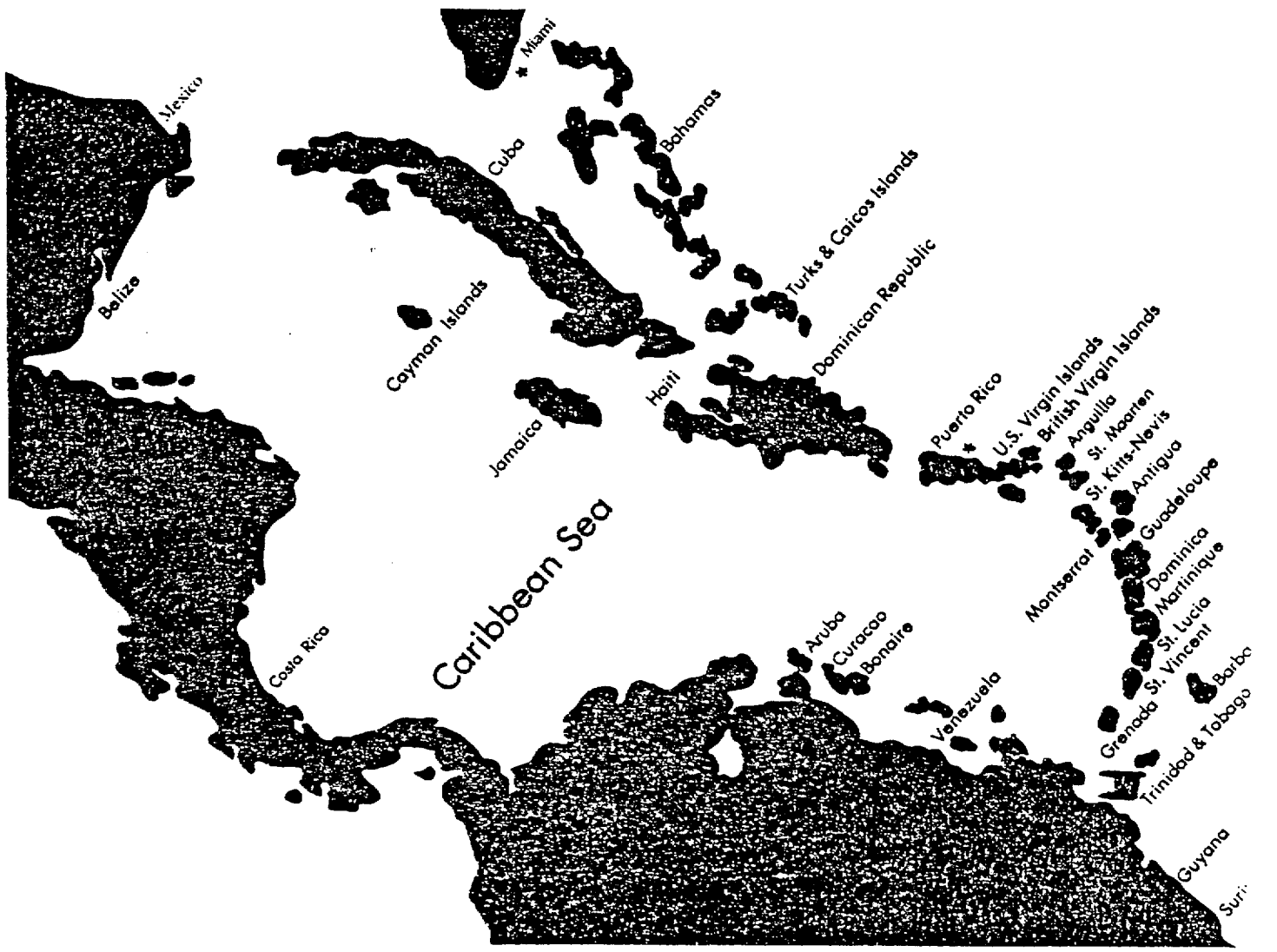


Chart B

# CARIBBEAN CRUISE ROUTINGS

## EASTERN CARIBBEAN

Eastern Caribbean 1-week cruises from Puerto Rico usually include the Eastern Caribbean as far as Barbados, Trinidad, and Caracas

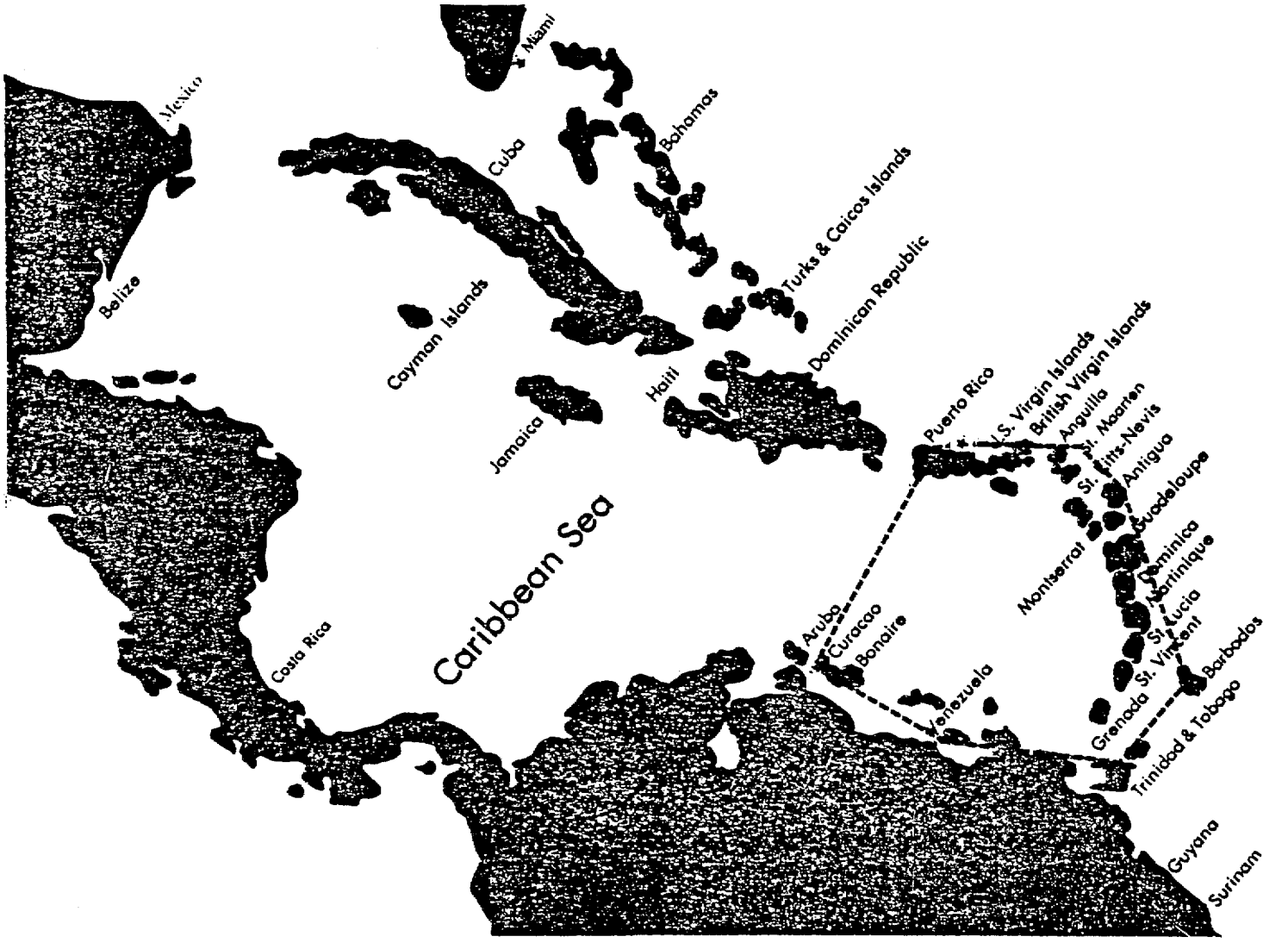


Chart C

# CARIBBEAN CRUISE ROUTINGS

## WESTERN CARIBBEAN

Western 1-week cruises from Miami range typically from Mexico to Puerto Rico. This can include port calls to the Dominican Republic, Haiti, Jamaica, Cayman, the US Virgin Islands, and the Bahamas.

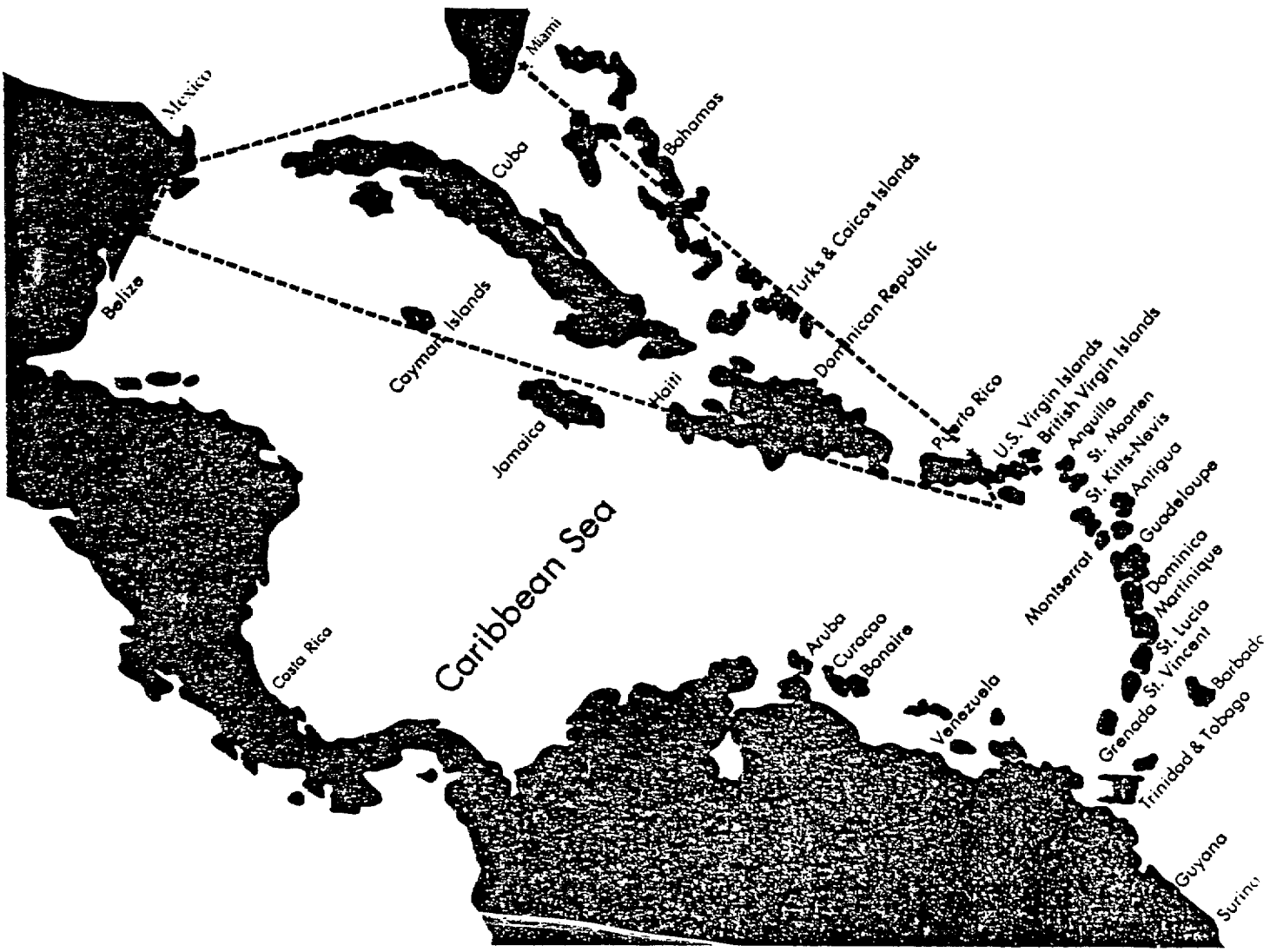


Chart D

# CARIBBEAN CRUISE ROUTINGS

## WESTERN AND EASTERN CARIBBEAN

Western and Eastern Caribbean cruise routings from Miami for typical 2-week cruises usually include the Western and Eastern Caribbean with a South and North bound route itinerary offering a one way fly or cruise option.

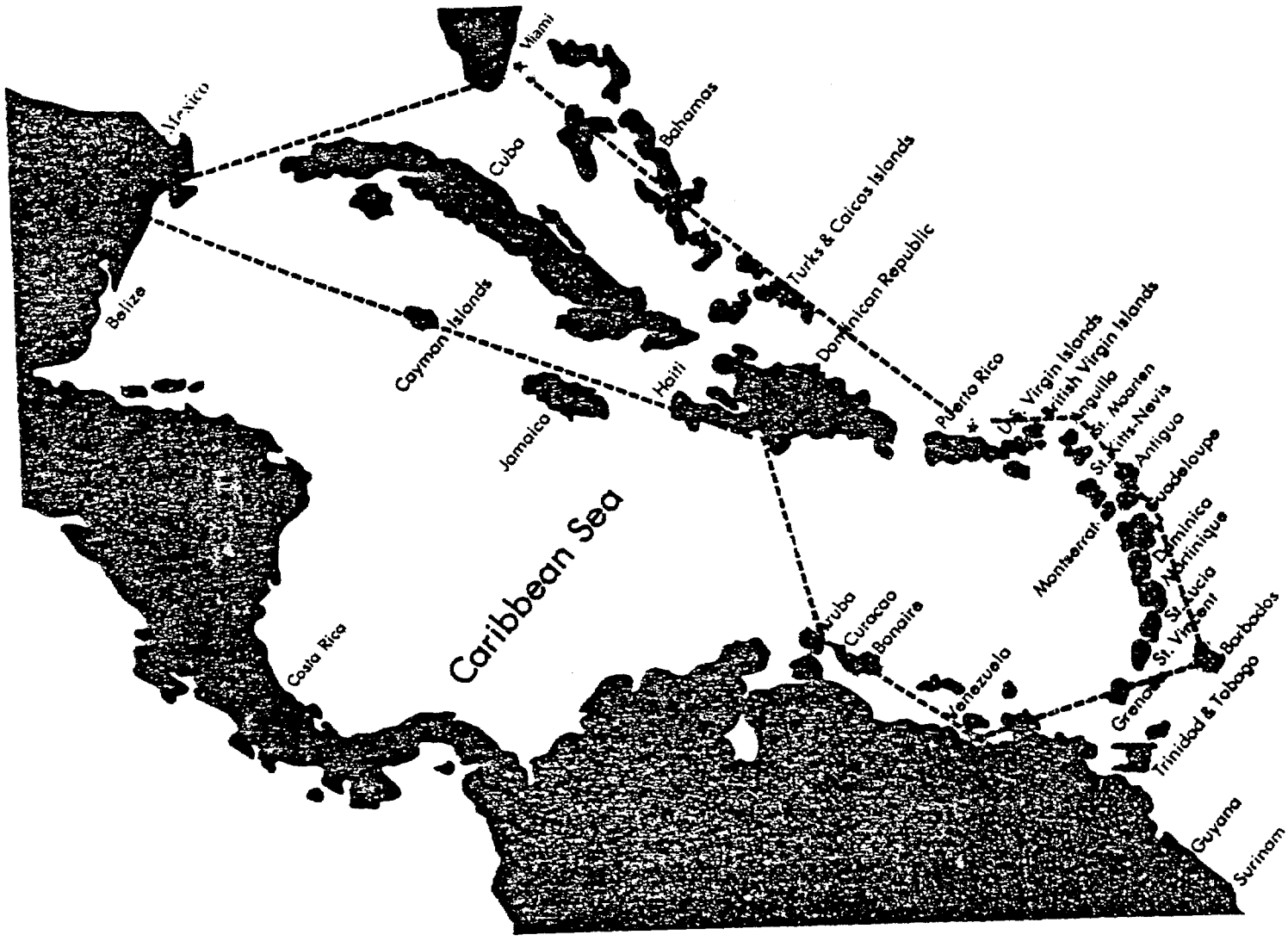
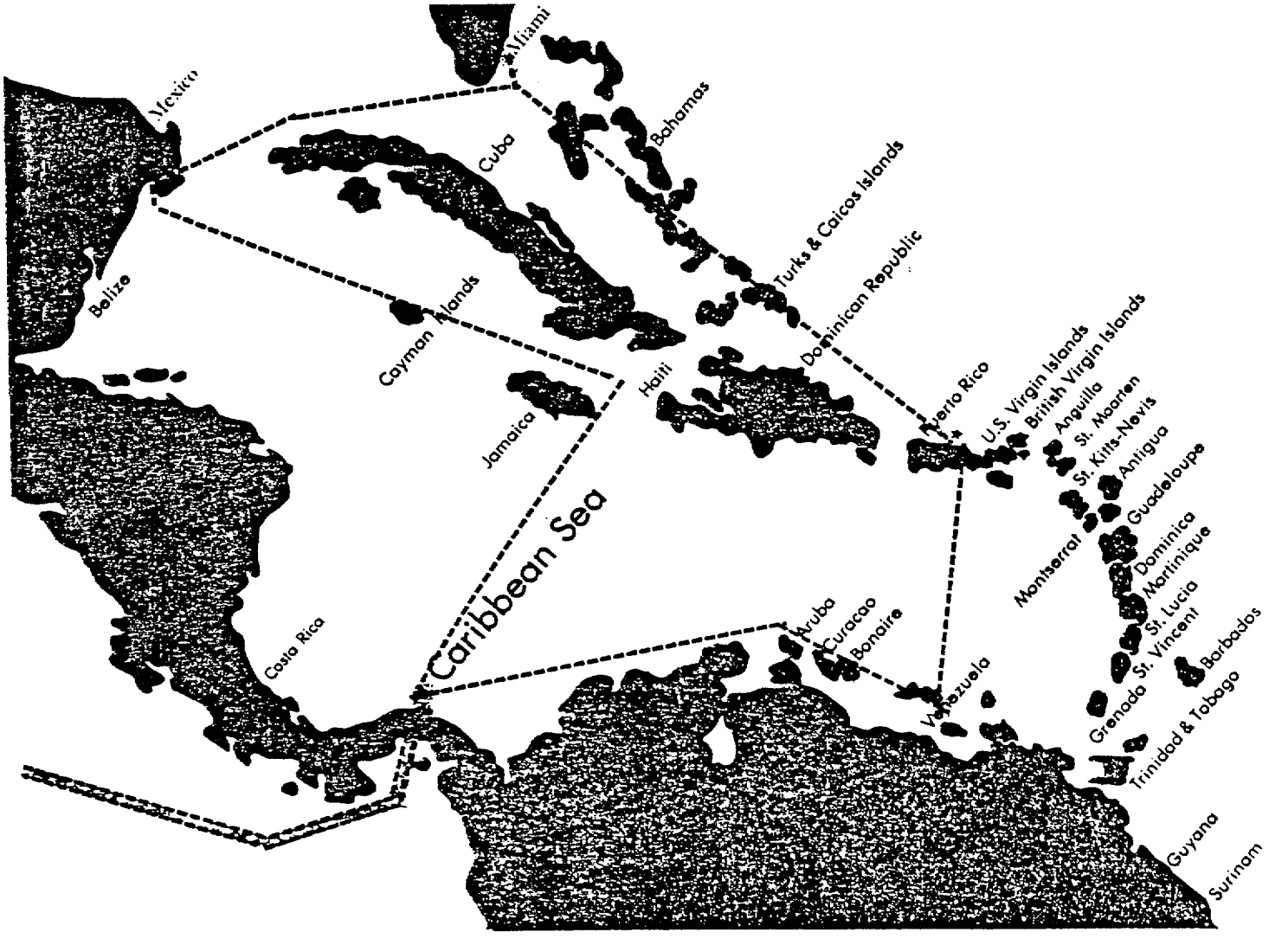


Chart E

# CARIBBEAN CRUISE ROUTINGS

## TRANS-CANAL/PANAMA/CARIBBEAN

Trans-Canal/Panama cruises usually include the Caribbean ports Jamaica, Cayman or Haiti, and Mexico. Alternatively they may route via Curacao/Caracas and Puerto Rico to/from Miami.



# CROWN BAY PORT AREA
# MASTER PLAN

## ADDENDUM 3

## CODE OF FEDERAL REGULATIONS, TITLE 3, PARTS 154 TO 156

# Code of Federal Regulations

## Navigation and Navigable Waters



**33**

PARTS 1 TO 199

**Revised as of July 1, 1983**

§ 153.419 Reimbursement for actions under section 311(d) of the Act.

(a) Each Federal agency requesting reimbursement for an action authorized under section 311(d) of the Act must, within 60 days after completion of the action, submit to the cognizant District Commander, through the AC for review and certification required in paragraph (b) of this section, lists, accompanied by supporting accounting data, itemizing actual costs incurred.

(b) Requests for reimbursement submitted by Federal agencies are reviewed by the AC to ensure that the costs for which reimbursement is being sought were authorized under section 311(d) of the Act and must have one of the following certifications by the AC, as appropriate:

(1) I certify that the actions for which reimbursement is being requested in the attached statements were authorized by me as removal actions under section 311(d) of the Act and reasonable costs related thereto are proper for payment from the Pollution Fund.

_____
(Signature)

AC

_____
(Incident title)

_____
(Pollution incident project number)

(2) I certify that, except as noted below, the actions for which reimbursement is being requested in the attached statements were authorized by me as removal actions under section 311(d) of the Act, and reasonable costs related thereto are proper for payment from the Pollution Fund. The following actions were not authorized by me and are not subject to reimbursement from the Pollution Fund:

_____
(Signature)

AC

_____
(Incident title)

_____
(Pollution incident project number)

# PART 154—OIL POLLUTION PREVENTION REGULATIONS FOR MARINE OIL TRANSFER FACILITIES

### Subpart A—General

Sec.



### Subpart B—Operations Manual



### Subpart C—Equipment Requirements



### Subpart D—Facility Operations



AUTHORITY: 33 U.S.C. 1321(j)(1)(C); E.O. 11735, 3 CFR, 1971 through 1975 Comp., p. 793; 49 CFR 1.46(m), unless otherwise noted.

## Subpart A—General

SOURCE: CGD 75-124, 45 FR 7169, Jan. 31, 1980, unless otherwise noted.

### § 154.100 Applicability.

(a) Except as provided in paragraphs (b) and (c) of this section, this part applies to each facility that is capable of transferring oil in bulk to or from any vessel or public vessel with a capacity of 250 or more barrels of that oil.





(b) This part does not apply to a facility in a caretaker status (one that is not operational or not capable of conducting oil transfer operations).

(c) This part does not apply to a marina (a facility that services primarily pleasure craft) unless it engages in the transfer of oil in bulk to or from a vessel or public vessel with a capacity of 250 or more barrels of that oil.

### § 154.105 Definitions.

As used in this part:

"Captain of the Port" (COTP) means the U. S. Coast Guard officer commanding a Captain of the Port Zone described in Part 3 of this chapter, or that person's authorized representative.

"Commandant" means the Commandant of the Coast Guard or an authorized representative.

"Contiguous Zone" means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone, but not extending beyond 12 miles from the baseline from which the breadth of the territorial sea is measured.

"District Commander" means the officer of the Coast Guard designated by the Commandant to command a Coast Guard District, as described in Part 3 of this chapter or an authorized representative.

"Facility" means either an onshore facility or an offshore facility and includes, but is not limited to structures, equipment, and appurtenances thereto, used or capable of being used to transfer oil to or from a vessel or a public vessel. A facility includes federal, state, municipal, and private facilities.

"Facility operator" means the person who owns, operates, or is responsible for the operation of the facility.

"Mobile facility" means any facility that can readily change location, such as a tank truck or tank car, other than a vessel or public vessel.

"Monitoring device" means any fixed or portable sensing device used to monitor for a discharge of oil onto the water, within or around a facility, and designed to notify operating personnel of a discharge of oil.

"Officer in Charge, Marine Inspection" (OCMI) means the U. S. Coast Guard officer commanding a Marine Inspection Zone described in Part 3 of this chapter, or an authorized representative.

"Offshore facility" means any facility of any kind located in, on, or under any of the navigable waters of the United States other than a vessel or a public vessel.

"Person in charge" means an individual designated as a person in charge of oil transfer operations under §§ 154.710 (for facilities) or 155.700 (for vessels) of this chapter.

"Tank barge" means any tank vessel not equipped with a means of self-propulsion.

"Tank vessel" means any vessel that carries oil in bulk as cargo or in residue.

"Transfer" means any movement of oil to, from, or within a vessel by means of pumping, gravitation, or displacement.

"Vessel operator" means a person who owns, operates, or is responsible for the operation of a vessel.

### § 154.106 Incorporation by reference.

(a) The American National Standards Institute (ANSI) standards referred to in this Part are incorporated by reference. The incorporation by reference was approved by the Director of the Federal Register under the provisions of 1 CFR Part 51 on December 20, 1978.

(b) The standards are on file in the FEDERAL REGISTER library, and copies may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017.

(c) The standards may also be examined at the offices of the Marine Technical and Hazardous Materials Division, U.S. Coast Guard Headquarters, 2100 Second Street, S.W. Washington, D.C. 20593 (Telephone 202-426-2167).

[CGD 75-124, 45 FR 7169, Jan. 31, 1980, as amended by CGD 82-063a, 48 FR 4776, Feb. 3, 1983]

### § 154.107 Alternatives.

(a) The COTP may consider and approve alternative procedures, methods,

or equipment standards to be used by a facility operator in lieu of any requirement in this part if:

(1) Compliance with the requirement is economically or physically impractical;

(2) The alternative provides an equivalent level of safety and protection from pollution by oil, which is documented in the request; and

(3) The facility operator submits a written request for the alternative.

(b) The COTP takes final approval or disapproval action on the request, in writing, within 30 days of receipt of the request.

### § 154.108 Exemptions.

(a) The Chief, Office of Marine Environment and Systems, acting for the Commandant, grants an exemption or partial exemption from compliance with any requirement in this part if:

(1) A facility operator submits an application for the exemption via the COTP; and

(2) It is determined, from the application, that:

(i) Compliance with the requirement is economically or physically impractical;

(ii) No alternative procedures, methods, or equipment standards exist that would provide an equivalent level of safety and protection from pollution by oil; and

(iii) The likelihood of oil being discharged is not substantially increased as a result of the exemption.

(b) If requested, the applicant must submit any appropriate information, including an environmental and economic assessment of the effects of and reasons for the exemption, and proposed procedures, methods or equipment standards.

(c) The exemption may specify the procedures, methods, or equipment standards that will apply.

(d) An exemption is granted or denied in writing. The decision of the Chief, Office of Marine Environment and Systems is a final agency action.

### § 154.110 Letter of intent.

(a) The facility operator of any facility to which this part applies must submit a letter of intent to operate a facility or to conduct mobile facility operations to the COTP not less than 60 days before the intended operations unless a shorter period is allowed by the COTP. Previously submitted letters of intent need not be resubmitted.

(b) The letter of intent required by paragraph (a) of this section may be in any form but must contain:

(1) The name, address, and telephone number of the facility operator;

(2) The name, address, and telephone number of the facility or, in the case of a mobile facility, the dispatching office; and

(3) Except for a mobile facility, the geographical location of the facility in relation to the associated body of navigable waters.

(c) The facility operator of any facility for which a letter of intent has been submitted, shall within five (5) days advise the COTP in writing of any changes of information and shall cancel, in writing, the letter for any facility at which oil transfer operations are no longer conducted.

### § 154.120 Facility examinations.

(a) The facility operator shall allow the Coast Guard, at any time, to make any examination and shall perform, upon request, any test to determine compliance with this part and part 156, as applicable. The facility operator shall conduct all required testing of facility equipment in a manner acceptable to the Coast Guard.

(b) The COTP shall provide the facility operator with a written report of the results of the examination for the record required by § 154.740(e) and shall list the deficiencies in the report when the facility is not in compliance with the requirements in this part and Part 156 of this chapter.

## Subpart B—Operations Manual

SOURCE: CGD 75-124, 45 FR 7171, Jan. 31, 1980, unless otherwise noted.

### § 154.300 Operations manual: General.

(a) The facility operator of each facility to which this part applies shall submit, with the letter of intent, an operations manual that:

(1) Describes how the applicant meets the operating rules and equipment requirements prescribed by this part and Part 156 of this chapter;

(2) Describes the responsibilities of personnel under this part and Part 156 of this chapter in conducting oil transfer operations; and

(3) Includes translations into a language or languages understood by all designated persons in charge of transfer operations employed by the facility.

(b) The facility operator shall maintain the operations manual so that it is:

(1) Current; and

(2) Readily available for examination by the COTP.

(c) The COTP shall review the operations manual when submitted, after any substantial amendment, and as otherwise required by the COTP.

(d) In determining whether the manual meets the requirements of this part and Part 156 of this chapter the COTP shall consider the size, complexity, and capability of the facility.

(e) If the manual meets the requirements of this part and Part 156 of this chapter, the COTP shall issue a "letter of adequacy" as described in § 154.325.

(f) The facility operator shall ensure that a sufficient number of copies of the operations manual, including a sufficient number of the translations required by paragraph (a)(3) of this section, are readily available for each facility person in charge while conducting an oil transfer operation.

NOTE: The facility operator may request that the contents of the operations manual or portions thereof be considered commercial or financial information that is privileged or confidential. Under the Freedom of Information Act, the Coast Guard would withhold any part of the contents of the operations manual from public disclosure upon determining that it is commercial or financial information that is privileged or confidential.

### § 154.310 Operations manual: Contents.

(a) Each operations manual required by § 154.300 must contain:

(1) The geographic location of the facility;

(2) A physical description of the facility including a plan of the facility showing mooring areas, transfer locations, control stations, and locations of safety equipment;

(3) The hours of operation of the facility;

(4) The sizes, types, and number of vessels that the facility can transfer oil to or from simultaneously;

(5) For each product transferred at the facility:

(i) Generic or chemical name; and

(ii) The following cargo information:

(*a*) The name of the cargo, as listed in Table 30.25-1 of 46 CFR;

(*b*) A description of the appearance of the cargo;

(*c*) A description of the odor of the cargo;

(*d*) The hazards involved in handling the cargo;

(*e*) Instructions for safe handling of the cargo;

(*f*) The procedures to be followed if the cargo spills or leaks, or if a person is exposed to the cargo; and

(*g*) A list of fire fighting procedures and extinguishing agents effective with fires involving the cargo.

(6) The minimum number of persons on duty during transfer operations and their duties;

(7) The names and telephone numbers of facility, Coast Guard, and other personnel who may be called by the employees of the facility in an emergency;

(8) The duties of watchmen, required by § 155.810 of this chapter and 46 CFR 35.05-15, for unmanned vessels moored at the facility;

(9) A description of each communication system required by this part;

(10) The location and facilities of each personnel shelter, if any;

(11) A description and instructions for the use of drip and discharge collection and vessel slop reception facilities, if any;

(12) A description and the location of each emergency shutdown system;

(13) Quantity, types, locations, and instructions for use of monitoring devices if required by § 154.525;

(14) Quantity, type, location, instructions for use, and time limits for gaining access to the containment equipment required by § 154.545;

(15) Quantity, type, location, and instructions for use of fire extinguish-

ing equipment required by § 126.15(j) of this chapter;

(16) The maximum relief valve setting (or maximum system pressure when relief valves are not provided) for each oil transfer system;

(17) Procedures for:

(i) Operating each loading arm including the limitations of each loading arm;

(ii) Transferring oil;

(iii) Completion of pumping; and

(iv) Emergencies;

(18) Procedures for reporting and initial containment of oil discharges;

(19) A brief summary of applicable federal, state, and local oil pollution laws and regulations;

(20) Procedures for shielding portable lighting authorized by the COTP under § 154.570(c); and

(21) A description of the training and qualification program for persons in charge.

(b) The facility operator shall incorporate a copy of each amendment to the operations manual under § 154.320 in each copy of the manual with the related existing requirement, or add the amendment at the end of each manual if not related to an existing requirement.

(c) The operations manual must be written in the order specified in paragraph (a) of this section, or contain a cross-referenced index page in that order.

### § 154.320 Operations manual: Amendment.

(a) Using the following procedures, the COTP may require the facility operator to amend the operations manual if the COTP finds that the operations manual does not meet the requirements in this part:

(1) The COTP shall notify the facility operator in writing of any inadequacies in the operations manual. The facility operator may submit written information, views, and arguments on and proposals for amending the manual within 14 days from the date of the COTP notice. After considering all relevant material presented, the COTP shall notify the facility operator of any amendment required or adopted, or the COTP shall rescind the notice. The amendment becomes effective 30 days after the facility operator receives the notice, unless the facility operator petitions the Commandant to review the COTP's notice, in which case its effective date is delayed pending a decision by the Commandant. Petitions to the Commandant must be submitted in writing via the COTP who issued the requirement to amend.

(2) If the COTP finds that there is a condition requiring immediate action to prevent the discharge or risk of discharge of oil that makes the procedure in paragraph (a)(1) of this section impractical or contrary to the public interest, the COTP may issue an amendment effective on the date the facility operator receives notice of it. In such a case, the COTP shall include a brief statement of the reasons for the findings in the notice. The owner or operator may petition the Commandant to review the amendment, but the petition does not delay the amendment.

(b) The facility operator may propose amendments to the operations manual by:

(1) Submitting any proposed amendment and reasons for the amendment to the COTP not less than 30 days before the requested effective date of the proposed amendment; or

(2) If an immediate amendment is needed, requesting the COTP to approve the amendment immediately.

(c) The COTP shall respond to proposed amendments submitted under paragraph (b) of this section by:

(1) Approving or disapproving the proposed amendments;

(2) Advising the facility operator whether the request is approved, in writing, before the requested date of the amendments;

(3) Including any reasons in the written response if the request is disapproved; and

(4) If the request is made under paragraph (b)(2) of this section immediately approving or rejecting the request.

(d) Amendments to personnel and telephone number lists required by § 154.310(a)(8) do not require prior COTP approval, but the COTP must be advised of such amendments as they occur.





### § 154.325 Operations manual: Letter of adequacy.

(a) The letter of adequacy is a letter, from the COTP to the facility operator, certifying that the operations manual meets the requirements of this part.

(b) No person may use an operations manual for oil transfer operations, as required by § 156.120 (t)(2), (t)(3), and (u)(2) of this chapter, unless the facility operator has a valid letter of adequacy for the operations manual.

(c) The requirement in paragraph (b) of this section for a valid letter of adequacy is effective either on (date three years after effective date of the final rule); upon issuance to a facility operator of the first letter of adequacy; or upon any substantial amendment to the operations manual, whichever is earliest.

(d) The letter of adequacy is voided if the facility operator:

(1) Amends the operations manual without following the procedures in § 154.320; or

(2) Fails to amend the operations manual when required by the COTP.

## Subpart C—Equipment Requirements

SOURCE: CGD 75-124, 45 FR 7172, Jan. 31, 1980, unless otherwise noted.

### § 154.500 Hose assemblies.

Each hose assembly used for transferring oil must meet the following requirements:

(a) The minimum design burst pressure for each hose assembly must be:

(1) At least 600 pounds per square inch; and

(2) At least four times the sum of the pressure of the relief valve setting (or four times the maximum pump pressure when no relief valve is installed) plus the static head pressure of the oil transfer system at the point where the hose is installed.

(b) The maximum allowable working pressure (MAWP) for each hose assembly must be:

(1) At least 150 pounds per square inch; and

(2) More than the sum of the pressure of the relief valve setting (or the maximum pump pressure when no valve is installed) plus the static head pressure of the oil transfer system at the point where the hose is installed.

(c) Each nonmetallic hose must be usable for oil service.

(d) Each hose assembly must either have:

(1) Full threaded connections;

(2) Flanges that meet standard B16.5, *Steel Pipe Flanges and Flang Fittings*, or standard B.16.24, *Brass or Bronze Pipe Flanges*, of the American National Standards Institute (ANSI); or

(3) Quick-connect couplings that are acceptable to the Commandant.

(e) Except as provided in paragraph (f) of this section, each hose must be marked with:

(1) The products for which the hose may be used or the words "oil service";

(2) Maximum allowable working pressure;

(3) Date of manufacture; and

(4) Date of the latest test required by § 156.170 of this chapter.

(f) The information required by paragraph (e)(3) and (4) of this section need not be marked on the hose if it is recorded elsewhere at the facility and the hose is marked to identify it with that information.

(g) The hose burst pressure and the pressure used for the test required by § 156.170 of this chapter must not be marked on the hose and must be recorded elsewhere at the facility as described in paragraph (f) of this section.

(h) Each hose used to transfer oil for fuel to a vessel that has a fill pipe for which containment can not practically be provided must be equipped with an automatic back pressure shutoff nozzle.

### § 154.510 Loading arms.

(a) Each mechanical loading arm used for transferring oil and placed into service after June 30, 1973, must meet the design, fabrication, material, inspection, and testing requirements in ANSI Standard B31.3 with Addenda B31.3a, *Petroleum Refinery Piping*.

(b) The manufacturer's certification that the standard in paragraph (a) of this section has been met must be permanently marked on the loading arm or recorded elsewhere at the facility



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with the loading arm marked to identify it with that information.

(c) Each mechanical loading arm used for transferring oil must have a means of being drained or closed before being disconnected after transfer of oil.

### § 154.520 Closure devices.

The facility must have enough butterfly valves, wafer-type resilient seated valves, blank flanges, or other means acceptable to the COTP to blank off the ends of each hose or loading arm that is not connected for the transfer of oil. New, unused hose is exempt from this requirement.

### § 154.525 Monitoring devices.

The COTP may require the facility to install monitoring devices if the installation of monitoring devices at the facility would significantly limit the size of a discharge of oil and either:

(a) The environmental sensitivity of the area requires added protection;

(b) The products transferred at the facility pose a significant threat to the environment; or

(c) The size or complexity of the transfer operation poses a significant potential for a discharge of oil.

### § 154.530 Small discharge containment.

(a) Except as provided in paragraphs (c) and (d) of this section, the facility must have fixed catchments, curbing, or other fixed means to contain oil discharged in at least:

(1) Each hose handling and loading arm area (that area on the facility that is within the area traversed by the free end of the hose or loading arm when moved from its normal stowed or idle position into a position for connection); and

(2) Each hose connection manifold area.

(b) The discharge containment means required by paragraph (a) of this section must have a capacity of at least:

(1) Two barrels if it serves one or more hoses of 6-inch inside diameter or smaller, or loading arms of 6-inch nominal pipe size diameter or smaller;

(2) Three barrels if it serves one or more hoses with an inside diameter of more than 6-inches, but less than 12 inches, or loading arms with a nominal pipe size diameter of more than 6 inches, but less than 12 inches; or

(3) Four barrels if it serves one or more hoses of 12-inch inside diameter or larger, or loading arms of 12-inch nominal pipe size diameter or larger.

(c) The facility may use portable means of not less than ½ barrel capacity each to meet the requirements of paragraph (a) of this section for part or all of the facility if the COTP finds that fixed means to contain oil discharges are not feasible.

(d) A mobile facility may have portable means of not less than five gallons capacity to meet the requirements of paragraph (a) of this section.

### § 154.540 Discharge removal.

The facility must have a means to safely and quickly remove discharged oil from the containment means required by § 154.530 without discharging the oil into the water.

### § 154.545 Discharge containment equipment.

(a) Each facility must have ready access to enough oil containment material and equipment to contain any oil discharged on the water from operations at that facility.

(b) For the purpose of this section, "access" may be by direct ownership, joint ownership, cooperative venture, or contractual agreement.

(c) Each facility must establish time limits, subject to approval by the COTP, for deployment of the containment material and equipment required by paragraph (a) of this section considering:

(1) Oil handling rates;

(2) Oil capacity susceptible to being spilled;

(3) Frequency of facility operations;

(4) Tidal and current conditions;

(5) Facility age and configuration; and

(6) Past record of discharges.

(d) The COTP may require a facility to surround each vessel conducting an oil transfer operation with oil containment material before commencing an oil transfer operation if:





(1) The environmental sensitivity of the area requires the added protection;

(2) The products transferred at the facility pose a significant threat to the environment;

(3) The past record of discharges at the facility is poor; or

(4) The size or complexity of the transfer operation poses a significant potential for a discharge of oil; and

(5) The use of vessel containment provides the only practical means to reduce the extent of environmental damage.

### § 154.550 Emergency shutdown.

(a) The facility must have an emergency means to enable the person-in-charge of the transfer of oil on board the vessel, at his or her usual operating station, to stop the flow of oil from the facility to the vessel. This means must be:

(1) An electrical, pneumatic, or mechanical linkage to the facility; or

(2) An electronic voice communications system continuously operated by a person on the facility who can stop the flow of oil immediately.

(b) The point in the oil transfer system at which the emergency means stops the flow of oil on the facility must be located near the dock manifold connection to minimize the loss of oil in the event of the rupture or failure of the:

(1) Hose;

(2) Loading arm; or

(3) Manifold valve.

(c) Not later than November 1, 1980, the means required by paragraph (a) of this section must be able to stop the flow of oil in:

(1) 60 seconds on any facility or portion of a facility which starts operations on or before November 1, 1980; and

(2) 30 seconds on any facility which starts operations after November 1, 1980.

### § 154.560 Communications.

(a) Each facility must have a means that enables continuous two-way voice communication between the person in charge of the vessel transfer operation and the person in charge of the facility transfer operation.

(b) Each facility must have a means, which may be the communications system itself, that enables a person on board a vessel or on the facility to effectively indicate the desire to use the means of communication required by paragraph (a) of this section.

(c) The means required by paragraph (a) of this section must be usable and effective in all phases of the transfer operation and all conditions of weather at the facility.

(d) A facility may use the system in § 154.550(a)(2) to meet the requirement of paragraph (a) of this section.

(e) Portable radio devices used to comply with paragraph (a) of this section during the transfer of flammable or combustible liquids must be intrinsically safe, as defined in 46 CFR 110.15-100(i), and meet Class I, Division I, Group D requirements as defined in 46 CFR 111.80.

[CGD 75-124, 45 FR 7172, Jan. 31, 1980; 45 FR 43705, June 30, 1980]

### § 154.570 Lighting.

(a) Except as provided in paragraph (c) of this section, for operations between sunset and sunrise, a facility must have fixed lighting that adequately illuminates:

(1) Each transfer connection point on the facility;

(2) Each transfer connection point in use on any barge moored at the facility to or from which oil is being transferred;

(3) Each oil transfer operations work area on the facility; and

(4) Each oil transfer operations work area on any barge moored at the facility to or from which oil is being transferred.

(b) Where the illumination is apparently inadequate, the COTP may require verification by instrument of the levels of illumination. On a horizontal plane 3 feet above the barge deck or walking surface, illumination must measure at least:

(1) 5.0 foot candles at transfer connection points; and

(2) 1.0 foot candle in oil transfer operations work areas.

(c) For small or remote facilities, the COTP may authorize operations with an adequate level of illumination pro-

vided by the vessel or by portable means.

(d) Lighting must be located or shielded so as not to mislead or otherwise interfere with navigation on the adjacent waterways.

## Subpart D—Facility Operations

### § 154.700 General.

No person may operate a facility unless the equipment, personnel, and operating procedures of that facility meet the requirements of this part.

[CGD 75-124, 45 FR 7173, Jan. 31, 1980]

### § 154.710 Persons in charge: Designation and qualification.

No person may serve, and the facility operator may not use the services of a person, as person in charge of facility oil transfer operations unless:

(a) The facility operator has designated that person as a person in charge and has advised the Captain of the Port in writing of his designation;

(b) He has had at least 48 hours of experience in oil transfer operations at a facility in operations to which this part applies;

(c) He has enough experience at the facility for which qualification is desired to enable the facility operator to determine that his experience is adequate and that he can operate the oil transfer equipment of the facility, except that, for new facilities, the Captain of the Port may authorize alternative experience requirements; and

(d) The facility operator has determined that he knows:

(1) The hazards of each product to be transferred;

(2) The rules in this part and in Part 156 of this chapter;

(3) The facility operating procedures as described in the operations manual;

(4) Vessel oil transfer systems, in general;

(5) Vessel oil transfer control systems, in general;

(6) Each facility oil transfer control system to be used;

(7) Local discharge reporting procedures; and

(8) The facility's contingency plan for discharge reporting and containment.

(Sec. 311(j)(1)(C) of the Federal Water Pollution Control Act (86 Stat. 816, 868); 33 U.S.C. 1161(j)(1)(C); EO 11548, 3 CFR, 1966-1970 Comp., p. 949; 49 CFR 1.46(m))

[CGD 71-160R, 37 FR 28253, Dec. 21, 1972]

### § 154.730 Persons in charge: Evidence of designation.

Each person in charge shall carry evidence of his designation as a person in charge when he is engaged in transfer operations unless such evidence is immediately available at the facility.

(Sec. 311(j)(1)(C) of the Federal Water Pollution Control Act (86 Stat. 816, 868); 33 U.S.C. 1161(j)(1)(C); EO 11548, 3 CFR, 1966-1970 Comp., p. 949; 49 CFR 1.46(m))

[CGD 71-160R, 37 FR 28253, Dec. 21, 1972]

### § 154.740 Records.

Each facility operator shall keep at the facility and make available for examination by the COTP:

(a) A copy of the letter of intent for the facility;

(b) The name of each person currently designated as a person in charge of oil transfer operations at the facility;

(c) The date and result of the most recent test or examination of each item tested or examined under § 156.170 of this chapter;

(d) The hose information required by § 154.500 (e) and (g) except that marked on the hose;

(e) The record of all examinations of the facility by the COTP within the last 3 years; and

(f) The Declaration of Inspection required by § 156.150(f) of this chapter.

[CGD 75-124, 45 FR 7173, Jan. 31, 1980]

### § 154.750 Compliance with operations manual.

The facility operator shall require facility personnel to use the procedures in the operations manual prescribed by § 154.300 for operations under this part.

[CGD 75-124, 45 FR 7174, Jan. 31, 1980]





# PART 155—OIL POLLUTION PREVENTION REGULATIONS FOR VESSELS

### Subpart A—General



### Subpart B—Vessel Equipment



### Subpart C—Oil Transfer Personnel, Procedures, Equipment, and Records



AUTHORITY: 33 U.S.C. 1321(j)(1) (C) and (D); EO 11735, 3 CFR, 1971-1975 Comp., p. 793; 49 CFR 1.46(m), unless otherwise noted.

## Subpart A—General

SOURCE: CGD 75-124, 45 FR 7174, Jan. 31, 1980, unless otherwise noted.

### § 155.100 Applicability.

This part prescribes procedures, methods, equipment and other requirements for equipment to prevent and contain oil discharges from vessels on the navigable waters and contiguous zone of the U.S.

### § 155.105 Definitions.

The definitions in Part 154 of this chapter apply to this part.

### § 155.107 Alternatives.

(a) The COTP or OCMI may consider and approve alternative procedures, methods, or equipment standards to be used by a vessel operator in lieu of any requirements in this part if:

(1) Compliance with the requirement is economically or physically impractical;

(2) The vessel operator submits a written request for the alternative at least 30 days before operations under the alternative are proposed; and

(3) The alternative provides an equivalent level of safety and protection from pollution by oil, which is documented in the request.

(b) The COTP or OCMI takes final approval or disapproval action on any alternative requested, in writing, within 30 days of receipt of the request.

### § 155.110 Exemptions.

(a) The Chief, Office of Marine Environment and Systems, acting for the Commandant, grants an exemption or partial exemption from compliance with any requirement in this part if:

(1) A vessel operator submits an application for exemption via the COTP or OCMI 30 days before operations under the exemption are proposed unless the COTP or OCMI authorizes a shorter time; and

(2) It is determined, from the application, that:

(i) Compliance with a specific requirement is economically or physically impractical;

(ii) No alternative procedures, methods, or equipment standards exist that would provide an equivalent level of safety and protection from pollution by oil; and

(iii) The likelihood of oil being discharged as a result of the exemption is minimal.

(b) If requested, the applicant must submit any appropriate information, including an environmental and economic assessment of the effects of and reasons for the exemption and proposed procedures, methods or equipment standards.

(c) The exemption may specify the procedures, methods, or equipment standards that will apply.

(d) An exemption is granted or denied in writing. The decision of the Chief, Office of Marine Environment and Systems is a final agency action.

## Subpart B—Vessel Equipment

AUTHORITY: Secs. 155.330 through 155.410 issued under Sec. 311(j)(1) (C) and (D) of the Federal Water Pollution Control Act (86 Stat. 816, 868); 33 U.S.C. 1161(j)(1) (C) and (D); EO 11548, 3 CFR, 1966-1970 Comp. p. 949; 49 CFR 1.46(m).

SOURCE: CGD 71-100R, 37 FR 28256, Dec. 21, 1972, unless otherwise noted.

### § 155.310 Cargo oil discharge containment.

(a) A tank vessel with a capacity of 250 or more barrels that is carrying oil cargo must have:

(1) Under or around each oil loading manifold and each oil transfer connection point, a fixed container or enclosed deck area that, in all conditions of vessel list or trim encountered during the loading operation, has a capacity of at least:

(i) One half barrel if it serves one or more hoses with an inside diameter of 2 inches or less, or one or more loading arms with a nominal pipe size diameter of 2 inches or less;

(ii) One barrel if it serves one or more hoses with an inside diameter of more than 2 inches but less than 4 inches, or one or more loading arms with a nominal pipe size diameter of more than 2 inches but less than 4 inches;

(iii) Two barrels if it serves one or more hoses with an inside diameter of 4 inches or more, but less than 6 inches, or one or more loading arms with a nominal pipe size diameter of 4 inches or more, but less than 6 inches;

(iv) Three barrels if it serves one or more hoses with an inside diameter of 6 inches or more, but less than 12 inches, or one or more loading arms with a nominal pipe size diameter of 6 inches or more, but less than 12 inches; or

(v) Four barrels if it serves one or more hoses with an inside diameter of 12 inches or more, or one or more loading arms with a nominal pipe size diameter of 12 inches or more;

(2) Means of draining or removing discharged oil from each container or enclosed deck area without discharging the oil into the water; and

(3) A mechanical means of closing each drain and scupper in the container or enclosed deck area required by this section.

(b) A tank barge with a capacity of 250 or more barrels that is carrying oil cargo must meet paragraph (a) of this section or be equipped with:

(1) A coaming, at least 4 inches high but not more than 8 inches high, enclosing the immediate area of the cargo hatches, oil loading manifolds, and transfer connections, that has a capacity, in all conditions of vessel list and trim to be encountered during the loading operation, of at least one-half barrel per hatch, manifold, and connection within the enclosed area;

(2) A fixed or portable container, under each oil loading manifold and each oil transfer connection within the coaming, that holds at least one-half barrel;

(3) A mechanical means of closing each drain and scupper within the coaming; and

(4) A means of draining or removing discharged oil from the fixed or portable container and from within the coamings without discharging the oil into the water.

[CGD 75-124, 45 FR 7174, Jan. 31, 1980]





### § 155.320 Fuel oil and bulk lubricating oil discharge containment.

(a) A vessel of 300 gross tons or more constructed after June 30, 1974 must have a fixed container or enclosed deck area under or around each fuel oil or bulk lubricating oil tank vent, overflow, and fill pipe, which:

(1) For a vessel of 300 or more but less than 1600 gross tons has a capacity of at least one-half barrel; and

(2) For a vessel of 1600 or more gross tons has a capacity of one barrel.

(b) A vessel of 100 gross tons or more constructed before July 1, 1974, and a vessel of 100 or more but less than 300 gross tons constructed after June 30, 1974 must:

(1) Meet paragraph (a)(1) of this section;

(2) Equip each fuel oil or bulk lubricating oil tank vent, overflow, and fill pipe during oil transfer operations with a portable container of at least a 5 U.S. gallon capacity; or

(3) If the vessel has a fill fitting for which containment is impractical, use an automatic back pressure shut-off nozzle.

[CGD 75-124, 45 FR 7175, Jan. 31, 1980]

### § 155.330 Oily waste and slop retention.

(a) No person may operate a vessel of 100 or more gross tons unless it has capacity to retain on board all oily waste and oily bilge slops that may accumulate while operating in the navigable waters or contiguous zone.

(b) No person may use a tank for oily bilge slops or oily waste on U.S. vessels certificated under 46 CFR Ch. I unless the tank meets the requirements of 46 CFR 56.50-50(h) for isolation between oil and bilge systems.

### § 155.340 Bilge slops on vessels of 100 or more gross tons: Ocean or coastwise service.

No person may operate a U.S. vessel of 100 or more gross tons certificated under 46 CFR Ch. I for Ocean or coastwise service, or a foreign vessel of 100 or more gross tons, that is fitted with either main or auxiliary machinery spaces, unless:

(a) The vessel has at least one pump installed to discharge oily bilge slops through a fixed piping system;

(b) The piping system required by this section has at least one outlet:

(1) For vessels of 1,600 or more gross tons, on each side of the weather deck; or

(2) For vessels of less than 1,600 gross tons, accessible from the weather deck;

(c) Each outlet required by this section has a shore connection that meets the specifications in Appendix A of this part or the vessel has at least one portable adapter that meets the specifications in Appendix A of this part and fits the required outlets;

(d) The vessel has a means on the weather deck near the discharge outlet to stop each pump that is used to discharge oily waste; and

(e) The vessel has a stop valve installed for each outlet required by this section.

### § 155.350 Bilge slops on vessels of 100 or more gross tons: Operations other than ocean or coastwise service.

No person may operate a vessel of 100 or more gross tons that is fitted with either main or auxiliary machinery spaces and is not subject to § 155.340, unless:

(a) The vessel has at least one pump installed to discharge oily bilge slops through a fixed piping system;

(b) The piping system required by this section has at least one outlet that is accessible from the weather deck;

(c) Each outlet required by this section has a shore connection that meets the specifications in Appendix A of this part or that meets standard B16.5, Steel Pipe Flanges and Flanged Fittings, or B16.31, Nonferrous Pipe Flanges, of the American National Standards Institute for a 4-inch standard flange; and

(d) The vessel has a stop valve installed for each outlet required by this section.

### § 155.360 Bilge slops on vessels of less than 100 gross tons.

No person may operate a vessel of less than 100 gross tons unless it has a fixed or portable means to discharge oily bilge slops to a reception facility.

**§ 155.370 Ballast discharge: Vessels of 100 or more gross tons: Ocean or coastwise service.**

No person may operate a U.S. vessel of 100 or more gross tons that is certificated under 46 CFR Ch. I for ocean or coastwise service, or a foreign vessel of 100 or more gross tons, that ballasts fuel tanks or has combined fuel and ballast tanks unless:

(a) The vessel has at least one pump installed to discharge ballast through a fixed piping system;

(b) The piping system required by this section has at least one outlet:

(1) For vessels of 1,600 or more gross tons, on each side of the weather deck; or

(2) For vessels of less than 1,600 gross tons, accessible from the weather deck;

(c) Each outlet required by this section has a shore connection that meets the specifications in Appendix A of this part, or the vessel has at least one portable adapter that meets the specifications in Appendix A of this part and fits the required outlets;

(d) The vessel has a means near the discharge piping on the weather deck to stop each pump that is used to discharge oily ballast; and

(e) The vessel has a stop valve installed for each outlet required by this section.

**§ 155.380 Ballast discharge: Vessels of 100 or more gross tons: Operations other than ocean or coastwise service.**

No person may operate a vessel of 100 or more gross tons that is not subject to § 155.370 and ballast fuel tanks or has combined fuel and ballast tanks unless:

(a) The vessel has at least one pump installed to discharge all oily ballast through a fixed piping system;

(b) The piping system required by this section has at least one outlet that is accessible from the weather deck;

(c) Each outlet required by this section has a shore connection that meets the specifications in Appendix A of this part or the vessel has at least one portable adapter that meets the specifications in Appendix A of this part and fits the required outlets; and

(d) The vessel has a stop valve installed for each outlet required by this section.

**§ 155.390 Ballast discharge: Vessels of less than 100 gross tons.**

No person may operate a vessel of less than 100 gross tons that ballasts fuel oil tanks unless it has a fixed or portable means to discharge oily ballast to a reception facility.

**§ 155.400 Exception for all vessels: Oily waste processing equipment.**

Sections 155.340 through 155.390 do not apply to a vessel that has a means acceptable to the Commandant to process oily bilge slops or oily ballast.

**§ 155.410 Exception for tank vessels: Oily waste transfer equipment.**

Sections 155.340 through 155.390 do not apply to tank vessels that have a means of transferring oily bilge slops or oily ballast to a cargo tank used for slops. On U.S. vessels, this means must meet the bilge and oil system isolation requirements in 46 CFR 56.50-50(h).

**§ 155.440 Placard.**

(a) A vessel, except a vessel of less than 26 feet in length, must have a placard of at least 5 by 8 inches, made of durable material, fixed in a conspicuous place in each machinery space, or at the bilge and ballast pump control station, stating the following:

DISCHARGE OF OIL PROHIBITED

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon or discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of $5,000.

(b) Existing stocks of placards may be used for the life of the placard.

(c) The placard required by paragraph (a) or (b) of this section must be printed in a language or languages understood by the crew.

[CGD 75-124, 45 FR 7175, Jan. 31, 1980]





**§ 155.470 Prohibited oil spaces.**

A self-propelled vessel of 300 or more gross tons must not carry bulk oil or oily waste in any space forward of a collision bulkhead except:

(a) For vessels constructed after June 30, 1974, fuel oil for use on the vessel may be carried in tanks forward of a collision bulkhead, if such tanks are at least 24 inches inboard of the hull structure; or

(b) For vessels constructed before July 1, 1974, fuel oil for use on the vessel may be carried in tanks forward of a collision bulkhead, if such tanks were designated, installed, or constructed for fuel oil carriage before July 1, 1974.

[CGD 75-124, 45 FR 7175, Jan. 31, 1980]

## Subpart C—Oil Transfer Personnel, Procedures, Equipment, and Records

SOURCE: CGD 75-124, 45 FR 7175, Jan. 31, 1980, unless otherwise noted.

**§ 155.700 Designation of person in charge.**

The operator, or his agent, of each vessel that has a capacity for 250 or more barrels of oil shall designate the person or persons in charge of each transfer of oil to or from the vessel and of each tank cleaning operation.

(Sec. 311(j)(1) (C) and (D) of the Federal Water Pollution Control Act (86 Stat. 816, 868); 33 U.S.C. 1161(j)(1) (C) and (D); EO 11548, 3 CFR, 1966-1970 Comp., p. 940; 49 CFR 1.46(m))

[CGD 71-160R, 37 FR 28256, Dec. 21, 1972]

**§ 155.710 Qualifications of person in charge.**

(a) No person may serve, and the operator of a vessel may not use the services of a person, as a person in charge of the transfer of oil to or from a vessel or of tank cleaning operations unless:

(1) For oil transfer operations on self-propelled tank vessels, he holds a valid license authorizing service on inspected vessels as a master, mate, pilot, or engineer, except that the person in charge of tank cleaning operations conducted at a tank cleaning facility may be a tankerman certificated for the grade of cargo last carried; or

(2) For tank barges, he holds a valid license authorizing service on inspected vessels as a master, mate, engineer, or is a tankerman certificated for the grade of cargo carried; or

(3) For vessels other than tank vessels that are required by 46 CFR Ch. I to have a licensed officer on board, he holds a valid license as a master, mate, pilot, engineer, or operator; or

(4) For all uninspected vessels of 100 or more gross tons, he has been instructed by the operator in his duties and the Federal Water Pollution laws and regulations that apply to the vessel.

(5) For foreign vessels of the same size and type as those specified in subparagraphs (a) (1), (2), and (3) of this section, he holds a license or certificate authorizing service on that vessel as a master, mate, pilot, engineer, or operator.

(Sec. 311(j)(1) (C) and (D) of the Federal Water Pollution Control Act (86 Stat. 816, 868); 33 U.S.C. 1161(j)(1) (C) and (D); EO 11548, 3 CFR, 1966-1970 Comp., p. 940; 49 CFR 1.46(m))

[CGD 71-160R, 37 FR 28256, Dec. 21, 1972]

**§ 155.720 Oil transfer procedures.**

The operator of a vessel that has a capacity for 250 or more barrels of oil must provide oil transfer procedures that meet the requirements of this part and Part 156 for:

(a) Transfers of oil to or from the vessel; and

(b) Transfers of oil from tank to tank within the vessel.

**§ 155.730 Compliance with oil transfer procedures.**

The vessel operator of each vessel required by § 155.720 to have oil transfer procedures shall maintain them current and shall require vessel personnel to use the oil transfer procedures for each oil transfer operation.

**§ 155.740 Availability of oil transfer procedures.**

The oil transfer procedures required by § 155.720 must be:

(a) Available for inspection by the COTP or OCMI whenever the vessel is in operation;

(b) Legibly printed in a language or languages understood by personnel engaged in oil transfer operations; and

(c) Permanently posted or available at a place where the procedures can be easily seen and used by members of the crew when engaged in oil transfer operations.

### § 155.750 Contents of oil transfer procedures.

(a) The oil transfer procedures required by § 155.720 must contain, either in the order listed or by use of a cross-reference index page:

(1) A list of each product transferred to or from the vessel, including the following information:

(i) Generic or chemical name;

(ii) Cargo information as described in § 154.310(a)(5)(ii) of this chapter; and

(iii) Applicability of oil transfer procedures;

(2) A description of each oil transfer system on the vessel including:

(i) A line diagram of the vessel's oil transfer piping, including the location of each valve, pump, control device, vent, and overflow;

(ii) The location of the shutoff valve or other isolation device that separates any bilge or ballast system from the oil transfer system; and

(iii) A description of and procedures for emptying the discharge containment system required by §§ 155.310 and 155.320;

(3) The number of persons required to be on duty during oil transfer operations;

(4) The duties by title of each officer, person in charge, tankerman, deckhand, and any other person required for each oil transfer operation;

(5) Procedures and duty assignments for tending the vessel's moorings during the transfer of oil;

(6) Procedures for operating the emergency shutdown and communications means required by §§ 155.780 and 155.785, respectively;

(7) Procedures for topping off tanks;

(8) Procedures for ensuring that all valves used during the oil transfer operations are closed upon completion of transfer;

(9) Procedures for reporting oil discharges into the water; and

(10) Procedures for closing and opening the vessel openings in § 155.815.

(b) Exemptions or alternatives granted must be placed in the front of the oil transfer procedures.

(c) The vessel operator shall incorporate each amendment to the oil transfer procedures under § 155.760 in the procedures with the related existing requirement, or at the end of the procedures if not related to an existing requirement.

### § 155.760 Amendment of oil transfer procedures.

(a) The COTP or OCMI may require the vessel operator of any vessel that is required to have oil transfer procedures under § 155.720 to amend those procedures if the COTP or OCMI finds that the oil transfer procedures do not meet the requirements of this part.

(b) The COTP or OCMI shall notify the vessel operator in writing of any inadequacies in the oil transfer procedures. The vessel operator may submit written information, views, and arguments on and proposals for amending the procedures within 14 days from the date of the COTP or OCMI notice. After considering all relevant material presented, the COTP or OCMI shall notify the vessel operator of any amendment required or adopted, or the COTP or OCMI may rescind the notice. The amendment becomes effective 30 days after the vessel operator receives the notice, unless the vessel operator petitions the Commandant to review the COTP or OCMI notice, in which case its effective date is delayed pending a decision by the Commandant. Petitions to the Commandant must be submitted in writing via the COTP or OCMI who issued the requirement to amend.

(c) If the COTP or OCMI finds that there is a condition requiring immediate action to prevent the discharge or risk of discharge of oil that makes the procedure in paragraph (b) of this section impractical or contrary to the public interest, he or she may issue an amendment effective on the date the vessel operator receives notice of it. In such a case, the COTP or OCMI includes a brief statement of the reasons





for the findings in the notice, and the vessel operator may petition the Commandant, in any manner, to review the amendment. The petition does not postpone the amendment.

### § 155.770 Draining of oil.

No person may intentionally drain oil or oily waste from any source into the bilge of any vessel.

### § 155.780 Emergency shutdown.

(a) A tank vessel with a capacity of 250 or more barrels of cargo oil that is carrying oil must have on board an emergency means to enable a person in charge of an oil transfer operation to stop the flow of oil to a facility, other vessel, or within the vessel.

(b) The means required in paragraph (a) of this section may be a pump control, a quick-acting, power actuated valve, or an operating procedure. If an emergency pump control is used, it must stop the flow of oil if oil could siphon through the stopped pump.

(c) The means required in paragraph (a) of this section must be operable from the cargo deck, cargo control room, or the usual operating station of the person in charge of the oil transfer operation.

### § 155.785 Communications.

(a) During vessel to vessel oil transfers, each tank vessel with a capacity of 250 or more barrels of cargo oil that is carrying oil must have a means that enables continuous two-way voice communication between the persons in charge of the transfer operations on both vessels.

(b) Each vessel must have a means, which may be the communication system itself, that enables a person on board each vessel to effectively indicate his desire to use the means of communication required by paragraph (a) of this section.

(c) The means required by paragraph (a) of this section must be usable and effective in all phases of the transfer operation and all conditions of weather.

(d) Portable radio devices used to comply with paragraph (a) of this section during the transfer of flammable or combustible liquids must be intrinsically safe, as defined in 46 CFR 110.15-100(i), and meet Class I, Division I, Group D requirements as defined in 46 CFR 111.80.

[CGD 75-124, 45 FR 7175, Jan. 31, 1980; 45 FR 43705, June 30, 1980]

### § 155.790 Deck lighting.

(a) A self-propelled vessel with a capacity of 250 or more barrels of oil that is transferring oil between sunset and sunrise must have deck lighting that adequately illuminates each:

(1) Transfer connection point on the vessel;

(2) Transfer connection point in use on any barge moored to the vessel to or from which oil is being transferred;

(3) Oil transfer operations work area on the vessel; and

(4) Oil transfer operations work area on any barge moored to the vessel to or from which oil is being transferred.

(b) Where the illumination is apparently inadequate the OCMI or COTP may require verification by instrument of the levels of illumination. On a horizontal plane 3 feet above the deck the illumination must measure at least:

(1) 5.0 foot candles at transfer connection points; and

(2) 1.0 foot candle in oil transfer operations work areas.

(c) Lighting must be located or shielded so as not to mislead or otherwise interfere with navigation on the adjacent waterways.

### § 155.800 Oil transfer hose.

Hose used to transfer oil must meet the requirements of § 154.500 of this chapter.

### § 155.805 Closure devices.

(a) Each end of each oil transfer hose on board which is not connected for the transfer of oil must be blanked off with butterfly valves, wafer-type resilient seated valves, blank flanges, or other means acceptable to the COTP or OCMI.

(b) New, unused hose is exempt from the requirement in paragraph (a) of this section.

### § 155.810 Tank vessel security.

The vessel operator of each tank vessel that contains more oil than the normal clingage and unpumpable bilge or sump residues in any cargo tank shall maintain surveillance of that vessel by using a person who is responsible for the security of the vessel and for keeping unauthorized persons off the vessel.

### § 155.815 Tank vessel integrity.

(a) Except as provided in paragraph (b) of this section, a tank vessel underway or at anchor must have all closure mechanisms on the following openings properly closed:

(1) Expansion trunk hatches;

(2) Ullage openings;

(3) Sounding ports;

(4) Tank cleaning openings; and

(5) Any other tank vessel openings that maintain the seaworthy condition of the tank vessel and prevent the inadvertent release of oil in the event of a tank vessel accident.

(b) No person may open any of the closure mechanisms in paragraph (a) of this section while the tank vessel is underway or at anchor except when authorized and supervised by a licensed officer or the tankerman required by 46 CFR 31.15-5(a).

### § 155.820 Records.

The vessel operator shall keep a written record available for inspection by the COTP or OCMI of:

(a) The name of each person currently designated as a person in charge of oil transfer operations.

(b) The date and result of the most recent test and inspection of each item tested or inspected as required by § 156.170 of this chapter;

(c) The hose information required by § 154.500(e) and (g) of this chapter unless that information is marked on the hose; and

(d) The Declaration of Inspection as required by § 156.150(f) of this chapter.

## APPENDIX A—SPECIFICATIONS FOR SHORE CONNECTION

(See §§ 340, 350, 370 and 380 of this Part)

| Item | Description | Dimension |
|---|---|---|
| 1 | Outside diameter. | 215 mm. (8 in.). |
| 2 | Inside diameter | According to pipe outside diameter. |
| 3 | Bolt circle diameter. | 183 mm. (7 1/16 in.). |
| 4 | Slots in flange | 6 holes 22 mm. (7/8 in.) in diameter shall be equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width is to be 22 mm. (7/8 in.). |
| 5 | Flange thickness. | 20 mm. (3/4 in.). |
| 6 | Bolts and nuts | 6, each of 20 mm. (3/4 in.) in diameter and of suitable length. |

The flange must be of steel having a flat face, with a gasket of oilproof material, and must be suitable for a service pressure of 6 kg./cm.2 (85 p.s.i.).

The steel materials used must meet the material specifications of standard B16.5, Steel Pipe Flanges and Flanged Fittings of the American National Standards Institute. (See § 154.106 of this chapter.)

[CGD 75-124, 45 FR 7176, Jan. 31, 1980]

# PART 156—OIL POLLUTION PREVENTION REGULATIONS FOR OIL TRANSFER OPERATIONS INVOLVING VESSELS

Sec.



AUTHORITY: 33 U.S.C. 1321(j)(1)(C) and (D); EO 11735, 3 CFR, 1971—1975 Comp., p. 793; 49 CFR 1.46(m).

SOURCE: CGD 75-124, 45 FR 7177, Jan. 31, 1980, unless otherwise noted.

### § 156.100 Applicability.

This part applies to the transfer of oil on the navigable waters or contiguous zone of the U.S. to, from, or within





any vessel and to or from a public vessel with a capacity of 250 or more barrels of that oil, except that this part does not apply to the transfer operation within or on a public vessel.

### § 156.105 Definitions.

The definitions in Part 154 of this chapter apply to this part.

### § 156.107 Alternatives.

(a) The COTP may consider and approve alternative procedures, methods, or equipment standards to be used by a vessel or facility operator in lieu of any requirements in this part if:

(1) Compliance with the requirement is economically or physically impractical;

(2) The vessel or facility operator submits a written request for the alternative at least 30 days before operations under the alternative are proposed, unless the COTP authorizes a shorter time; and

(3) The alternative provides an equivalent level of safety and protection from pollution by oil, which is documented in the request.

(b) The COTP takes final approval or disapproval action on any alternative requested, in writing, within 30 days of receipt of the request.

### § 156.110 Exemptions.

(a) The Chief, Office of Marine Environment and Systems, acting for the Commandant, grants an exemption or partial exemption from compliance with any requirement in this part if:

(1) The vessel or facility operator submits an application for exemption via the COTP at least 30 days before operations under the exemption are proposed, unless the COTP authorizes a shorter time; and

(2) It is determined, from the application, that:

(i) Compliance with a specific requirement is economically or physically impractical;

(ii) No alternative procedures, methods, or equipment standards exist that would provide an equivalent level of safety and protection from pollution by oil; and

(iii) The likelihood of oil being discharged as a result of the exemption is minimal.

(b) If requested, the applicant must submit any appropriate information, including an environmental and economic assessment of the effects of and reasons for the exemption and proposed procedures, methods or equipment standards.

(c) The exemption may specify the procedures, methods, or equipment standards that will apply.

(d) An exemption is granted or denied in writing. The decision of the Chief, Office of Marine Environment and Systems is a final agency action.

### § 156.112 Suspension order.

The COTP or OCMI may issue a suspension order to suspend oil transfer operations to the vessel or facility operator when the COTP or OCMI finds there is a condition requiring action to prevent the discharge or threat of discharge of oil, or when the COTP or OCMI is unable to verify compliance with the regulations through an inspection. A suspension order:

(a) May be effective immediately;

(b) Is issued in writing unless it is effective immediately and then it may be issued orally and followed up in writing;

(c) Includes a statement of each condition requiring action to prevent the discharge of oil; and

(d) Is withdrawn when the COTP, OCMI, or District Commander, as applicable, determines that the condition requiring action to prevent the discharge or threat of discharge of oil has been corrected or no longer exists.

### § 156.113 Compliance with suspension order.

(a) No vessel or facility operator to whom a suspension order has been issued may conduct oil transfer operations from the time the order is effective until that order is withdrawn by the applicable COTP, OCMI, or by the District Commander.

(b) The vessel or facility operator may request reconsideration of the suspension order either orally or in writing to the COTP or OCMI who issued it. The request may contain supporting documentation and evidence that the vessel or facility operator wishes to have considered.

(c) Any person not satisfied with a ruling made under the procedure contained in paragraph (b) of this section may appeal that ruling in writing, except as allowed under paragraph (e) of this section, to the Coast Guard District Commander of the district in which the suspension order was issued. The appeal may contain supporting documentation and evidence that the appellant wishes to have considered. The appeal does not stay the effect of the suspension order while the COTP or OCMI ruling is being reviewed. The District Commander issues a ruling after reviewing the appeal.

(d) The ruling by the District Commander is final agency action.

(e) If the delay in presenting a written appeal under paragraph (c) of this section would have a significant adverse impact on the appellant, the appeal may initially be presented orally. If an initial presentation of the appeal is made orally, the appellant must submit the appeal in writing within five days of the oral presentation to the District Commander to whom the oral appeal was made, containing, at a minimum the basis for the appeal and a summary of the material presented orally.

**§ 156.115 Person in charge: Limitations.**

(a) No person may serve as the person in charge of oil transfer operations on more than one vessel at a time during oil transfers between vessels or between two or more vessels and a facility unless authorized by the COTP.

(b) No person may serve as the person in charge of both a vessel and a facility during oil transfer operations unless authorized by the COTP.

**§ 156.118 Advance notice of oil transfer.**

(a) The COTP may require a facility operator to notify the COTP of the time and place of each oil transfer operation at least 4 hours before it begins for facilities that:

(1) Are mobile;

(2) Are in a remote location;

(3) Have a prior history of oil spills; or

(4) Conduct infrequent oil transfer operations.

(b) In the case of a vessel to vessel transfer, the COTP may require a vessel operator of a lightering or fueling vessel to notify the COTP of the time and place of each oil transfer operation, as specified by the COTP, at least 4 hours before it begins.

(c) No person may conduct such oil transfer operations until advance notice has been given as specified by the COTP.

NOTE: The notification may be accomplished by submitting a written schedule, periodically updated to be current.

**§ 156.120 Requirements for oil transfer.**

No person may conduct an oil transfer operation unless:

(a) The vessel's moorings are strong enough to hold during all expected conditions of surge, current, and weather and are long enough to allow adjustment for changes in draft, drift, and tide during the transfer operation;

(b) Oil transfer hoses and loading arms are long enough to allow the vessel to move to the limits of its moorings without placing strain on the hose, loading arm, or oil transfer piping system;

(c) Each hose is supported to prevent kinking or other damage to the hose and strain on its coupling.

(d) Each part of the oil transfer system is aligned to allow the flow of oil;

(e) Each part of the oil transfer system not necessary for the transfer operation is securely blanked or shut off;

(f) The end of each hose and loading arm that is not connected for the transfer of oil is blanked off using the closure devices required by §§ 154.120 and 155.805 of this chapter;

(g) The transfer system is attached to a fixed connection on the vessel and the facility except that when a vessel is receiving fuel, an automatic back pressure shutoff nozzle may be used;

(h) Each overboard discharge or sea suction valve that is connected to the vessel's oil transfer or cargo tank system is sealed or lashed in the closed position; except when used to receive or discharge ballast in compliance with 33 CFR Part 157;





(i) Each oil transfer hose has no unrepaired loose covers, kinks, bulges, soft spots, or any other defect which would permit the discharge of oil through the hose material and no gouges, cuts, or slashes that penetrate the first layer of hose reinforcement ("reinforcement" means the strength members of the hose, consisting of fabric, cord and/or metal);

(j) Each hose or loading arm in use meets §§ 154.500 and 154.510 of this chapter, respectively;

(k) Each connection meets § 156.130;

(l) Any monitoring devices required by § 154.525 of this chapter are installed and operating properly;

(m) The discharge containment equipment required by § 154.545 of this chapter is readily accessible or deployed as applicable;

(n) The discharge containment required by §§ 154.530, 155.310, and 155.320 of this chapter, as applicable, is in place and periodically drained to provide the required capacity;

(o) Each drain and scupper is closed by the mechanical means required by § 155.310;

(p) All connections in the oil transfer system are leak free except that a component in an oil transfer system, such as the packing glands of a pump, may leak at a rate that does not exceed the capacity of the discharge containment provided during the transfer operation;

(q) The communications required by §§ 154.560 and 155.785 of this chapter are operable for the transfer operation;

(r) The emergency means of shutdown required by §§ 154.550 and 155.780 of this chapter, as applicable, is in position and operable;

(s) There is a person in charge on the transferring vessel or facility and the receiving vessel or facility except as otherwise authorized under § 156.115;

(t) Each person in charge required by paragraph (s) of this section:

(1) Is at the site of the oil transfer operation and immediately available to the oil transfer personnel;

(2) Has in his or her possession a copy of the facility operations manual or vessel oil transfer procedures, as appropriate; and

(3) Conducts the transfer operation in accordance with the facility operations manual or vessel oil transfer procedures, as appropriate;

(u) The personnel required, under the facility operations manual and the vessel oil transfer procedures, to conduct the oil transfer operation:

(1) Are on duty; and

(2) Conduct the transfer operation in accordance with the facility operations manual or vessel oil transfer procedures, as appropriate;

(v) At least one person is at the site of the oil transfer operation who fluently speaks the language or languages spoken by both persons in charge;

(w) The person in charge of oil transfer operations on the transferring vessel or facility and the person in charge of oil transfer operations on the receiving vessel or facility have held a conference, to ensure that each person in charge understands the following details of the transfer operation:

(1) The identity of the product to be transferred;

(2) The sequence of transfer operations;

(3) The transfer rate;

(4) The name or title and location of each person participating in the transfer operation;

(5) Details of the transferring and receiving systems;

(6) Critical stages of the transfer operation;

(7) Federal, state, and local rules that apply to the transfer of oil;

(8) Emergency procedures;

(9) Discharge containment procedures;

(10) Discharge reporting procedures;

(11) Watch or shift arrangement;

(12) Transfer shutdown procedures;

(x) The person in charge of oil transfer operations on the transferring vessel or facility and the person in charge of oil transfer operations on the receiving vessel or facility agree to begin the transfer operation;

(y) Between sunset and sunrise the lighting required by §§ 154.570 and 155.790 of this chapter is provided; and

(z) For transfer operations between tank barges from sunset to sunrise,

lighting is provided as described in § 155.790 of this chapter.

**§ 156.125 Oil discharge cleanup.**

(a) Each person conducting an oil transfer operation shall stop the transfer operation whenever oil from any source is discharged:

(1) In the transfer operation work area; or

(2) Into the water or upon the adjoining shoreline in the transfer area.

(b) Except as permitted under paragraph (c) of this section, no person may resume an oil transfer operation after it has been stopped under paragraph (a) of this section, unless:

(1) Oil discharged in the oil transfer operation work area is cleaned up; and

(2) Oil discharged into the water or upon the adjoining shoreline is cleaned up, or is contained and being cleaned up.

(c) The COTP may authorize resuming the oil transfer operation if it is deemed appropriate.

**§ 156.130 Connection.**

(a) Each person who makes a connection for oil transfer operations shall:

(1) Use suitable material in joints and couplings to ensure a leak-free seal;

(2) Use a bolt in at least every other hole, and in no case less than four bolts, in each temporary bolted connection that uses a flange that meets American National Standards Institute (ANSI) standard flange requirements under § 154.500(d)(2) of this chapter;

(3) Use a bolt in each hole in each temporary bolted connection that uses a flange other than one that meets ANSI standards;

(4) Use a bolt in each hole of each permanently connected flange;

(5) Use bolts of the correct size in each bolted connection; and

(6) Tighten each bolt and nut uniformly to distribute the load and sufficiently to ensure a leak free seal.

(b) A person who makes a connection for oil transfer operations must not use any bolt that shows signs of strain or is elongated or deteriorated.

(c) Except as provided in paragraph (d) of this section, no person may use a connection for oil transfer operations unless it is:

(1) A bolted or full threaded connection; or

(2) A quick-connect coupling acceptable to the Commandant.

(d) No person may transfer oil to a vessel that has a fill pipe for which containment cannot practically be provided unless an automatic back pressure shutoff nozzle is used.

**§ 156.150 Declaration of inspection.**

(a) No person may transfer oil to or from a vessel unless each person in charge, designated under §§ 154.710 and 155.700 of this chapter, has filled out and signed the declaration of inspection form described in paragraph (c) of this section.

(b) No person in charge may sign the declaration of inspection unless he or she has determined by inspection, and indicated by initialling in the appropriate space on the declaration of inspection form, that the facility or vessel, as appropriate, meets § 156.120.

(c) The declaration of inspection may be in any form but must contain at least:

(1) The name or other identification of the transferring vessel or facility and the receiving vessel or facility;

(2) The address of the facility or location of the transfer operation if not at a facility;

(3) The date the transfer operation is started;

(4) A list of the requirements in § 156.120 with spaces on the form following each requirement for the person in charge of the vessel or facility to indicate by initialling that the requirement is met for the transfer operation; and

(5) A space for the date, time of signing, signature, and title of each person in charge during oil transfer operations on the transferring vessel or facility and space for the date, time of signing, signature, and title of each person in charge during oil transfer operations on the receiving facility or vessel.

(d) The form for the declaration of inspection may incorporate the declaration-of-inspection requirements under 46 CFR 35.35-30.





(e) The vessel and facility persons in charge shall each have a signed copy of the declaration of inspection available for inspection by the COTP during the oil transfer operation.

(f) The operators of each vessel and facility engaged in an oil transfer operation shall retain a signed copy of the declaration of inspection on board the vessel or at the facility for at least 1 month from the date of signature.

**§ 156.160 Supervision by person in charge.**

(a) No person may connect or disconnect a hose, top off a tank, or engage in any other critical procedures during an oil transfer operation unless the person in charge, required by § 156.120(s), supervises that procedure.

(b) No person may start the flow of oil to or from a vessel unless instructed to do so by either person in charge.

(c) No person may transfer oil to or from a vessel unless each person in charge is in the immediate vicinity and immediately available to the oil transfer personnel.

**§ 156.170 Equipment tests and inspections.**

(a) Except as provided in paragraph (d) of this section, no person may use any equipment listed in paragraph (c) of this section for oil transfer operations unless the vessel or facility operator, as appropriate, tests and inspects the equipment in accordance with paragraphs (b), (c) and (f) of this section and the equipment is in the condition specified in paragraph (c) of this section.

(b) During any test or inspection required by this section, the entire external surface of the hose must be accessible.

(c) For the purpose of paragraph (a) of this section:

(1) Each nonmetallic oil transfer hose must:

(i) Have no unrepaired loose covers, kinks, bulges, soft spots, or any other defect which would permit the discharge of oil through the hose material, and no gouges, cuts or slashes that penetrate the first layer of hose reinforcement, as defined in § 156.120(j).

(ii) Have no external deterioration and, to the extent internal inspection is possible with both ends of the hose open, no internal deterioration;

(iii) Not burst, bulge, leak, or abnormally distort under static liquid pressure at least 1½ times the maximum allowable working pressure; and

(iv) Where a dispute arises under paragraph (c)(1)(i) of this section, be acceptable for use after a hydrostatic test is successfully completed in the presence of the COTP;

(2) Each transfer system relief valve must open at or below the pressure at which it is set to open;

(3) Each pressure gauge must show pressure within 10 percent of the actual pressure;

(4) Each loading arm and each oil transfer pipe system, including each metallic hose, must not leak under static liquid pressure at least 1½ times the maximum allowable working pressure; and

(5) Each item of remote operating or indicating equipment, such as a remotely operated valve, tank level alarm, or emergency shutdown device, must perform its intended function.

(d) No person may use any hose in underwater service for oil transfer operations unless the operator of the vessel or facility has tested and inspected it in accordance with paragraph (c)(1) or (c)(4) of this section, as applicable.

(e) The test fluid used for the testing required by this section is limited to liquids that are compatible with the hose tube as recommended by the hose manufacturer.

(f) The frequency of the tests and inspections required by this section must be:

(1) Annually for facilities; and

(2) Annually or as part of the biennial and mid-period inspections for vessels.

## PART 157—RULES FOR THE PROTECTION OF THE MARINE ENVIRONMENT RELATING TO TANK VESSELS CARRYING OIL IN BULK

### Subpart A—General

Sec.

# CROWN BAY PORT AREA
# MASTER PLAN

## ADDENDUM 4

## FEDERAL REGISTER, RECEPTION FACILITIES PROPOSED RULEMAKING

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Parts 151 and 158

[CGD 78-035]

Reception Facilities

AGENCY: Coast Guard, DOT

ACTION: Notice of proposed rulemaking.

SUMMARY: This proposal solicits public comment on regulations implementing the reception facility requirements of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 Protocol relating thereto (MARPOL 73/78). MARPOL 73/78 controls the amount of waste materials ships can discharge at sea, and requires reception facilities at ports and terminals to receive materials retained on board as a result of compliance with MARPOL 73/78. The proposed regulations provide criteria for determining the adequacy of reception facilities, and administrative procedures for granting Certificates of Adequacy to ports and terminals.

DATE: Comments must be submitted on or before August 20, 1984.

ADDRESSES: Comments should be mailed to Commandant (G-CMC/44) (CGD 78-035), U.S. Coast Guard, Washington, D.C. 20593. The comments may be delivered to and will be available for inspection or copying at the Marine Safety Council (G-CMC/TP 44), Room 4402, Coast Guard Headquarters Building, 2100 2nd St., SW., Washington, D.C. 20593. Normal working hours are between 7:00 a.m. and 5:00 p.m., Monday through Friday, except holidays. Copies of the draft evaluation and the environmental assessment may also be inspected or copied at that address or obtained by a written request to the same address. To expedite processing, it is asked that requests for the draft evaluation and the environmental assessment not be included in the comments submitted.

FOR FURTHER INFORMATION CONTACT: Lieutenant Ellis H. Davison, II, Project Manager, Office of Marine Environment and Systems, (G-WPE-3), telephone 202-426-9578. Normal working hours are between 7:00 a.m. and 3:30 p.m. Monday through Friday, except holidays.

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this rulemaking by submitting written views, data, or arguments. Persons submitting comments should include their names and addresses, identify this notice (CGD 78-035) and the specific proposals of this Notice to which their comments apply, and give reasons for each comment. If acknowledgement is desired, a self-addressed, stamped post card shoud be enclosed. All comments received before expiration of the comment period will be considered before final action is taken on this proposal. Public meetings will be held at places and times to be announced in a future notice.

An advance notice of proposed rulemaking (ANPRM) was published in the March 24, 1983 issue of the Federal Register (48 FR 12395) that invited comments for 90 days, ending on June 22, 1983. Comments were received from 69 sources, including individuals, businesses, industry organizations, other Federal agencies, and state and local governments. Comments, suggestions and actions taken are summarized following the "Background" below.

## Drafting Information

The principal persons involved in drafting this proposed rulemaking are Lieutenant Ellis H. Davison, II, Project Manager, of the Office of Marine Environment and Systems, and Mr. Stanley M. Colby, Project Counsel, of the Office of Chief Counsel.

## Background

The purpose of MARPOL 73/78 (the Convention) is the reduction of accidental and operational pollution from ships. In order to reduce operational pollution, the Convention requires that some ship wastes be discharged to reception facilities. It contains two annexes, concerning Oil (Annex I) and Noxious Liquid Substances (Annex II), that must be implemented by countries ratifying the Convention when it enters into force. MARPOL 73/78, including Annex I, entered into force on October 2, 1983. The requirements for reception facilities in Annex I must be in effect no later than October 2, 1984. Annex II will enter into force on October 2, 1986, unless the parties to the Convention postpone that date, and the requirements for reception facilities in Annex II will be effective when it enters into force.

Annex I limits the amount of oily wastes that can be discharged into the sea. Waste which may require disposal as a consequence of Annex I will be derived from the bulk shipment of oil and from the use of oil as a fuel and lubricant in ships' propulsion systems. Reception facilities must be available to receive oily ballast water, oil-contaminated wash water and concentrated bilge slops which cannot be discharged in accordance with the Annex.

Oil tankers may have a need to dispose of oily ballast water and tank cleaning water. All self-propelled vessels accumulate bilge water in their engine rooms, and this bilge water often contains high concentrations of oil resulting from lubricant drippings and other routine losses. Under Annex I, vessels may either process this contaminated bilge water to remove the oil, which is then retained onboard as a residue for discharge to a reception facility, or they may discharge the contaminated water itself to a reception facility. Fuel oils for diesel propulsion systems and lubricants for both steam and diesel propulsion systems when processed onboard ship usually produce an oily residue. Such residues which cannot be discharged into the sea in compliance with Annex I must be retained onboard or discharged to reception facilities.

Regulation 12 of Annex I requires that adequate reception facilities be provided for residues and mixtures containing oil in—

(a) All ports and terminals in which crude oil is loaded into oil tankers where such tankers have immediately prior to arrival completed a ballast voyage of not more than 72 hours or of not more than 1,200 nautical miles;

(b) All ports and terminals in which oil other than crude oil in bulk (product) is loaded at an average quantity of more than 1,000 metric tons (7,000 barrels) per day;

(c) All ports having ship repair yards or tank cleaning facilities;

(d) All ports and terminals in which handle ships provided with sludge tanks;

(e) All ports and terminals in which handle ships retaining oily bilge water and other residues; and

(f) All loading ports handling combination carriers retaining oily residue onboard.

This notice addresses only the need for facilities to receive wastes from ships, not how those wastes are disposed of. Regulation of disposal falls primarily to the Environmental Protection Agency (EPA) and to state and local governments. The Coast Guard is working with the EPA to coordinate that aspect of reception facilities.

It is proposed that the term "reception facility" be used instead of the term "waste reception facility" which was used in the advance notice, in order to be more consistent with international usage and the Act to Prevent Pollution from Ships (94 Stat. 2297, 33 U.S.C. 1901).

**Annex II—Noxious Liquid Substances**

The ANPRM addressed Annex II of MARPOL 73/78, and many comments concerned issues related to this Annex. Changes to Annex II are being made by the International Maritime Organization (IMO) Sub-committee on Bulk Chemicals. Uncertainty as to the outcome of these changes makes a detailed approach to Annex II reception facilities impractical at this time. Therefore, the detailed proposal for implementing Annex II will not be made in this document but will be made in a separate notice of proposed rulemaking at a later date.

**Need**

This rulemaking will implement those parts of MARPOL 73/78 which require contracting states to ensure that reception facilities are available to receive wastes from ships, as described above. The Act to Prevent Pollution from Ships (supra), which is the implementing legislation for MARPOL 73/78, specifically directed the establishment of regulations setting criteria for determining the adequacy of reception facilities and procedures for certifying a port or terminal as having adequate reception facilities. The Act applies only to "seagoing" ships (33 U.S.C. 1903(a)). In order to be consistent with other regulations implementing MARPOL 73/78, as published in the Federal Register of October 6, 1983 (48 FR 45704), this notice proposes that the term "oceangoing" ship be used instead of "seagoing" ship. In defining the term "oceangoing" ship proposed § 158.120 refers to 33 CFR 151.05(j) which reads as follows:

"Oceangoing" ship means a ship that—

(1) Is operated under the authority of the United States and engages in international voyages;

(2) Is operated under the authority of the United States and is certificated for ocean service;

(3) Is operated under the authority of the United States and is certificated for coastwise service beyond three miles from land;

(4) Is operated under the authority of the United States and operates at any time seaward of the territorial sea of the United States as defined in § 2.05 of this chapter; or

(5) Is operated under the authority of a country other than the United States.

Note.—A Canadian or U.S. ship being operated exclusively on the Great Lakes of North America or their connecting and tributary waters, or exclusively on the internal waters of the United States and Canada; is not an "oceangoing" ship.

One commenter suggested that regulations for a Certificate of Adequacy are unnecessaty because of existing permitting programs under the Clean Water Act, as amended (71 Stat. 1567, 33 U.S.C. 1251), which prevent the disposal of wastes into harbors. The Coast Guard agrees that existing permitting programs are adequate to prevent disposal of wastes into harbors and other navigable waters of the United states, and proposes reliance on these permitting systems to assure the environmental sufficiency of reception facilities. However, it is the intention of MARPOL 73/78 to control disposal of wastes on the high seas, and it is necessary that reception facilities be available at ports and terminals to receive these wastes. Existing permitting systems do not address this issue.

Another commenter stated that reception facilities should not be necessary for ports and terminals handling dry bulk ships since these ships will be required by MARPOL 73/78 to be equipped with separators. While separators will allow ships to concentrate engineroom waste, reception facilities are still required to receive the concentrated wastes.

Two commenters, including the EPA, recommended that this program be extended to include the Great Lakes and other inland waters. This topic is covered by House Report 96–1224 on page 13 and again under the analysis of section 3 on page 15. Ships operating exclusively on the Great Lakes and other inland waters are under a more restrictive regime that makes MARPOL 73/78 unnecessary. Reception facilities will still need to be available for ports and terminals in these waters handling oceangoing ships. Further expansion of this program would be contrary to clear Congressional intent.

The National Oceanic and Atmospheric Administration expressed concern over the possible consequences of discharges from reception facilities of both low-level contaminants and highly saline ocean waters. These considerations must be dealt with under permitting programs such as National Pollutant Discharge Elimination System (NPDES).

**Regulatory Scheme**

As announced in the ANPRM, the Coast Guard proposes considering the adequacy of reception facilities at each terminal that is visited by tankers or oceangoing ships of 400 gross tons or more. This document also proposes to allow groups of terminals to apply for certification as a "port". In applying this concept, terminals, including ship repair yards, would be allowed to apply either individually or as part of a port. The definition proposed in § 158.120 would also allow organizations such as port authorities to apply for a Certificate of Adequacy for a group of terminals. In order to avoid the denial of entry to tankers and other oceangoing ships of 400 gross tons or more, each person in charge of a terminal would have to apply to the Captain of the Port (COTP) for a Certificate of Adequacy unless that terminal was included in the Certificate of Adequacy of a port.

Three commenters suggested that adequacy should be considered only on a port-wide basis. Two of these commenters suggested that government agencies should have the responsibility of providing reception facilities. The first suggestion would be allowed as an option under § 158.140(a) of the proposed rules, in that terminals within a commercial port area could combine and apply as a port which could be issued a Certificate of Adequacy. The second suggestion is not adopted because the Coast Guard has no authority to impose an obligation on state or local governments to provide reception facilities nor does it have the authority to provide these facilities to ports and terminals.

Two commenters addressed the question of a definition of "port". One endorsed the concept of a Coast Guard Captain of the Port Zone as encompassing a port. The other felt that allowing terminals to aggregate as a "port" only if they were commonly considered as a unitary commercial port, as implied in the language of the ANPRM, was to restrictive. The definition of "port" proposed in § 158.120 has been left broad. This definition and § 158.140(a) of the proposed rules would allow any number of terminals within a Captain of the Port Zone that share one or more reception facilities to combine and apply as a "port", without regard as to whether or not they operate as a unitary commercial port.

The proposed definition of "port" is intended to accomplish two things. The first two subsections are intended to allow entities within the port community the maximum flexibility in combining their reception needs. The third subsection, along with § 158.130(d), is intended to allow a COTP to designate a "terminal" in situations where the reception needs of oceangoing ships under MARPOL 73/78 are not being met by terminals complying with the criteria of Subpart B, individually or as voluntary "ports". The Coast Guard expects that this option would be used very rarely. Establishing a definition of "port" that meets the intent of MARPOL 73/78 and is consistent with the U.S. port industry has proven very difficult. The following is a list of elements that

was considered in establishing the definition of "port" as proposed in this notice:

1. The uncertainty of the boundaries of U.S. ports.

2. Uncertainty as to who, under the Act, would be considered a "person in charge" of a U.S port.

3. The problems of small ports in remote areas, where installation of reception facilities would be particularly burdensome.

4. The problem of applying the denial of entry sanction, required by the Act, within a U.S. port.

5. The problem of segregating the individual responsibilities of a terminal from the overall responsibilities of a port with regard to reception facilities, particularly with regard to product oil loading terminals and ship repair yards.

6. Maintaining sufficient flexibility that the port industry can seek the most economical solution to the problem of providing reception facilities.

7. The problem of maintaining consistency with the definition of "thermal" contained in the Act.

8. The problem of establishing the appropriate cutoff level, under this regulatory scheme, for ports serving only small ships. (400 gross tons is proposed).

Further comment is specifically requested on this issue.

One commenter opposed the option of certifying groups, based on the perception that this might result in increased hazard from shifting a ship from one berth to another for the purpose of waste discharge. There may be cases where the expense and possible hazard of shifting berths is offset by the advantages obtained from large, central reception facilities, and the Coast Guard proposes retaining this broad concept.

Two commenters expressed concern that ports and terminals having reception facilities available might be required to receive wastes from ships handled at other ports and terminals. Under this proposal, a port or terminal need only have reception facilities available for the needs of the oceangoing ships it services, although it may agree to make its reception facilities available to another port or terminal.

Three commenters opposed any requirement that a port or terminal be required to receive waste in excess of that allowed by an NPDES permit, or wastes that are incompatable with installed treatment systems. An individual reception facility would not be required to take a particular batch of waste, but, to be issued a Certificate of Adequacy, a port or terminal would have to provide reception facilities for the usual MARPOL 73/78-related wastes of the oceangoing ships it services. For example, and oil loading port or terminal might have a fixed treatment system for oily ballast water that is incapable of processing oily bilge water or sludge. In that case, to be considered adequate, the port or terminal might have to provide separate facilities for those wastes. A ship with unusual quantities or types of waste would have to make its own arrangements, which could be with the loading port or terminal or another port or terminal.

Addressing a related issued, four commenters expressed concern over whether they, as terminal operators, might have to assume responsibility for the ultimate disposal of wastes received at their terminal from ships. The assignment of responsibility or liability for waste disposal is not under Coast Guard control and will depend on the particular Federal, state and local waste management programs applicable to the port, terminal, or reception facility and the types of waste. The Coast Guard is working with the EPA to coordinate this rulemaking with other waste management programs. Two commenters, including the Independent Liquid Terminals Association (ILTA), suggested that reception facilities available at ports and terminals should not necessarily have to dispose of the wastes received. This comment and the ILTA comments mentioned below were endorsed by nineteen other commenters. While § 158.140(b)(7) would require that ultimate disposal be accounted for in the application, there is no proposal that treatment and disposal be accomplished at the port or terminal.

Four commenters suggested that reception facilities would be impractical in smaller ports in Alaska due to the costs of construction and of hauling wastes to areas where they could be recycled or be disposed. It is in the best interests of the ships and ports and terminals operating in a particular trade that total expenses be minimized by the use of reception facilities located where they are most economical to all concerned. Before this kind of option can be accepted, ships calling at a port or terminal choosing the option of a surrogate reception facility must be capable of retaining wastes until they reach the port or terminal where reception facilities are to be made available, without discharging wastes at sea in contravention of MARPOL 73/78. Under the proposed regulations this would be considered an "alternative", and the COTP could grant a waiver under § 158.150 if these considerations were met.

One commenter questioned the basis for limiting the program to ports and terminals handling ships over 400 gross tons. One commenter endorsed this limit. Section 158.110 of the proposed regulations would maintain this limit for oceangoing ships other than tankers for two reasons:

a. The regulatory scheme developed for larger ports and terminals would be unnecessarily complex and burdensome for smaller ports and terminals.

b. The 400 gross ton demarcation for equipment requirements on non-tankers contained in Regulation 9 of Annex I of MARPOL 73/78 provides a logical demarcation line between "large" and "small" oceangoing ships.

The Coast Guard will consider further rulemaking for ports and terminals used exclusively by non-tankers of less than 400 gross tons after an appropriate regulatory scheme can be developed.

One commenter, the Honorable Don Young of the House of Representatives, referred to House Report 96-1224, page 16, with regard to smaller ports. The following statement is contained in the analysis of section 6:

> In the exercise of the Secretary's broad power under this section, it is contemplated that may of the smaller ports will not require certification but will nevertheless be permitted to transfer oil and hazardous substances in those cases in which the vessels have no present need to discharge oil or hazardous substance wastes.

This statement of Congressional policy is accommodated by the waiver provisions of proposed § 158.150. The alternatives required to meet the needs of oceangoing ships without undue burden on smaller ports would have to be determined on a case by case basis.

Seven commenters addressed the use of denial of entry of oceangoing vessels to ports and terminals not holding valid Certificates of Adequacy. Three commenters opposed this provision, one supported it and three sought clarification. Denial of entry is mandated by the Act (33 U.S.C. 1905(e)) and the Coast Guard may not modify this provision by regulation. Denial of entry to an entire geographic port area would only be invoked if none of the ports and terminals within the area were certified as having adequate reception facilities. Denial of entry would only be invoked against individual ports and terminals that were not certified. Since the broad definition of reception facilities would include mobile facilities that need not be continuously present at a port or terminal, and proposed § 158.150 would allow a waiver based on reception facilities provided at locations other than the port or terminal

applying for a certificate, the Coast Guard believes that there is enough flexibility provided for applicants to meet the requirements for certification.

One commenter suggested that any necessary enforcement action should be taken against an operator of a reception facility rather than against an operator of a port or terminal. The Act clearly requires the Certificate of Adequacy to be issued to the port or terminal. It is the responsibility of the person in charge to ensure that the port or terminal operates in accordance with that certificate. The person who is in charge of a reception facility is only responsible for ensuring that the facility meets the criteria of proposed § 158.200.

Many commenters expressed concern over the lead time necessary to acquire permits or licenses under the various waste management programs, or to modify the terms of permits or licenses already in effect. The COTP would have the authority to consider these factors under the waiver authority of proposed § 158.150. Additionally, the applicant could use facilities located elsewhere as an interim measure under the waiver provision proposed in § 158.150.

One commenter requested that the effective date of th proposed regulations be fixed. Section 158.180 of the proposed regulations would require that, to avoid denial of entry of oceangoing ships, a port or terminal obtain a Certificate of Adequacy by October 2, 1984. Many commenters expressed concern that there would be insufficient time to fund, plan and construct reception facilities by October 2, 1984. This date is fixed by MARPOL 73/78, and the Coast Guard cannot extend it.

The accompanying discussion follows the same order as the subject matter is discussed in the ANPRM:

(1) *Reception Facilities.* Twelve commenters including the ILTA favored a broad definition of reception facilities to include mobile facilities such as tank trucks, railroad tank cars, and tank barges. Proposed § 158.120 adopts this comment.

(2) *Adequacy.* Three commenters suggested that the Coast Guard consider the adequacy of the capacity of reception facilities on a case-by-case basis rather than establishing fixed guidelines. Guidelines are considered necessary to establish the minimum criteria required by law. Section 158.150 of the proposed rules would allow the person in charge of a port or terminal to propose alternatives to the requirements.

Eight commenters addressed the issue of response time, in terms of how much advance notice of need for reception facilities oceangoing ships should have to give. Three commenters recommended twenty-four hours, one recommended forty-eight hours and the ILTA recommended seventy-two hours. Three commenter recommended that it be determined by the COTP on a case-by-case basis. Twenty-four hours is proposed in § 158.200(a) and § 151.09(f). In many cases, particularly in coastwise voyages, it woud be difficult for oceangoing ships to give accurate estimated times of arrival for more than twenty-four hours in advance. Section 158.150 of the proposed rules would allow an alternative. If mobile facilities are not based in the immediate port area, a longer response time may be considered by the COTP. In addition, the ILTA suggested that advance notice should include the quantity and characterization of waste. The Coast Guard agrees with this comment and included it in proposed § 151.09(f).

Seven commenters addressed the issue of transfer time. The statutory allowance of compensation for unreasonable delay mandates that reception facilities have the capacity and ability to avoid such a circumstance. One commenter suggested that this was an economic matter that should not be subject to regulation. Three commenters suggested that transfer time should be determined on a case-by-case basis. One commenter suggested overall time limits for "undue delay"; eight hours for normal working hours, 8:00 a.m. to 4:00 p.m. Mondays through Fridays except for holidays, and sixteen hours at other times. One commenter suggested a six to eight hour limit for transfer of wastes, and another suggested a twelve hour time limit for oily ballast and an unspecified lesser time for other wastes. Section 158.200(b) proposes a ten hour limit for reception of oily ballast, and § 158.200(c) proposes a four hour limit for other wastes; however, alternatives could be considered on a case-by-case basis under proposed § 158.150.

(3) *Reception Needs for Terminals.* Sections 158.210—158.240 of the proposed rules reflect, for the most part, the guidelines suggested by the International Maritime Organization (IMO). The IMO Guidelines do not detail functions of ship traffic density to individual ports and terminals. This factor has been added into the criteria proposed under §§ 158.210 through 158.230 basd on the assumptions of the IMO Guidelines, data received from commenters, and Coast Guard estimates. The traffic volume of ship repair yards is not great enough for the traffic density to be a factor. The public is requested to provide further data to refine the proposed criteria.

There is an interaction between the proposed regulations and Subpart F of 33 CFR Part 157, applying to tankers of over 40,000 gross tons. Subpart F provides for an exemption, based on availability of reception facilities, from requirements in 33 CFR 157.10a to retrofit segregated ballast, dedicated clean ballast, and crude oil washing on existing tankers. A notice of proposed rulemaking published in the **Federal Register** (49 FR 2998) of January 24, 1984 proposes applying similar requirements to existing tankers of between 20,000 and 40,000 gross tons, retaining the provision for an exemption. The exemption would be available to an existing tanker that can document the availability of reception facilities at those loading terminals that the tanker agrees to use exclusively. The regulations proposed for Part 158 in this document may have the effect of making an exemption under Part 157 more widely available by increasing the availability of reception facilities.

The Coast Guard proposes retaining the regulations in Part 157, Subpart F, separate from those proposed for Subpart 158 in this document. The two sets of regulations would meet two separate needs. Those in Part 157 assure the Coast Guard, by certification of the owner, that reception facilities with sufficient capacity to handle oily-ballast water discharges are available at the loading terminals used by a tanker that would otherwise have to meet segregated ballast, dedicated clean ballast, and crude oil washing requirements. Those proposed for Part 158 would assure the Coast Guard that reception facilities are available at a specific port or terminal for those ships complying with the segregated ballast, dedicated clean ballast and crude oil washing requirements of MARPOL 73/78 normally using the port or terminal. A Certificate of Adequacy for reception facilities issued under the provisions of the proposed rules would not necessarily assure that a terminal has sufficient capacity to process the large quantities of oily ballast that would be generated by a tanker for which an exemption under Part 157 is sought.

(a) *Crude Oil Loading Ports and Terminals.* Two commenters suggested that the 30% of deadweight tonnage criteria for reception of oily ballast from crude and product tankers was excessive. They suggested that 10%—15% of deadweight tonnage is a more reasonable range. The proposed rules use the 30% figure for each tanker loaded daily in § 158.210 but we will consider reducing this criteria if additional comments can support a

reduced level. In addition, waivers of this criteria would be considered on a case-by-case basis under § 158.150.

(b) *Product Oil Loading Ports and Terminals.* One commenter suggested that the criteria for requiring reception facilities of 1,000 metric-ton-per-day was too low, encompassing comparatively small product loading ports and terminals for which reception facilities for oily ballast should not be required. This criteria is set by MARPOL 73/78, Annex I, Regulation 12(2)(b). The Coast Guard must apply this criteria, however some flexibility exists in determining whether a port or terminal is loading this amount of product on ships to which the convention applies. One commenter suggested that product oil transferred to tank barges should not be considered in the 1,000 metric-tons-per-day criteria. The Coast Guard agrees with this suggestion and is proposing § 158.220 accordingly. Product oil transferred to oceangoing tank barges that cannot ballast cargo tanks or wash cargo tanks while proceeding en route would not be included. Two commenters endorsed the Coast Guard proposal that the 1,000 metric tons per day criteria be calculated on the basis of annual data. The Coast Guard agrees with this comment and included it in the proposal.

A criteria of 30% capacity for oily ballast for each tanker loaded daily is proposed in § 158.220(d) but the Coast Guard will consider reducing the standards if commenters can support a reduced level. In addition, waivers of this criteria would be considered on a case-by-case basis under § 158.150.

Two commenters suggested that reception facilities should not be necessary for sludge and bilge residue at all oil ports and terminals since ships do not typically offload these wastes at each port or terminal. These facilities must be made available because Regulation 12(2)(e) of Annex I of MARPOL 73/78 requires adequate reception facilities for these wastes at all terminals. The proposed rules would provide enough flexibility to reduce the burden on individual ports and terminals in meeting this criteria.

The ILTA suggested that ports and terminals in this category be allowed to handle tankers that have no need for oily ballast water reception without certification, presumably because these tankers are equipped with segregated ballast tanks or dedicated clean ballast tanks. Under proposed § 158.220, a port or terminal handling exclusively segregated ballast and clean ballast tankers would be certified as having adequate reception facilities even if it had no capacity for receiving oily ballast water. It should be noted that ports and terminals in this category would need reception facilities for cargo residues regardless of the ballasting system of tankers using them.

One commenter suggested that tankers equipped with segregated ballast or clean ballast tanks should be excluded from the calculations of the 1,000 metric-tons-per-day threshold. This could allow large ports or terminals handling a mix of tankers to have no reception facilities for oily ballast water or cargo residue. Small tankers without segregated ballast or clean ballast systems loading at these ports and terminals would be placed in the position of having to arrange their own reception facilities for oily ballast water on a case-by-case basis, a fairly substantial operational hardship. Segregated ballast and clean ballast product carriers need reception facilities for the residues from tank cleaning operations. The reception facility threshold in MARPOL 73/78 was established with the understanding that most tankers would have segregated ballast or dedicated clean ballast tanks. For this reason, the proposal would apply this cutoff to a few small ports and terminals, and products loaded on segregated ballast and clean ballast tankers would be counted toward the 1,000 metric-ton-per-day criteria.

(c) *Ship Repair Yards and Tank Cleaning Facilities.* Several commenters raised issues concerning reception of chemical wastes in ship repair yards. These issues will be addressed in detail in a later notice of proposed rulemaking dealing with Annex II of MARPOL 73/78. The criteria for ship repair yard reception facilities proposed in § 158.240 were derived from the IMO Guidelines.

(d) *Terminals Handling Combination Carriers.* Two commenters addressed the proposal that reception facilities provided for oily bilge water be considered adequate for oily residues from tank cleaning on combination carriers changing from liquid to dry cargo. One commenter supported this proposal, and the other opposed it. The Coast Guard proposes to maintain the original concept. If it appears that reception facilities provided for oily bilge water are in fact inadequate for oily residues from combination carriers, the concept may be reconsidered and additional rulemaking may have to be pursued.

(e) *Terminals Handling Ships with Sludge Tanks and Bilge Water Residues.* The criteria for sludge reception proposed in §§ 158.210(a) and 158.220(a) is based on the IMO assumption that an individual tanker may have up to 10 metric tons of sludge to discharge. Most sludge is generated by diesel powered-ships burning residual fuel oils. In the U.S., loading ports and terminals for both crude oil and product oil predominantly serve U.S. flag tankers. According to Lloyd's Register of Shipping Statistical Tables for 1981, Table 7, the number of U.S. flag steam-powered tankers outnumber U.S. flag diesel-powered (motor) tankers by 3 to 1, and the gross tonnage of U.S.flag steam-powered tankers is greater than that of U.S. flag diesel-powered (motor) tankers by 12 to 1. Since steam-powered ships generate sludge at a far lower rate than diesel-powered ships, U.S. oil loading ports and terminals will only occasionally receive sludge; therefore, the criteria for sludge in this proposal is not based on the number of vessels using the port or terminal.

The criteria for sludge reception proposed in § 158.230(a) and (b) are based on the IMO assumption that diesel-powered oceangoing ships will generate approximately .25 tons of sludge per day. The Coast Guard assumes that the average oceangoing ship will arrive at a port or terminal after a five-day voyage, and will accumulate ten metric tons of sludge prior to dicharging these residues at a reception facility. Based on these assumptions, one diesel-powered ship out of eight arriving at a port or terminal will utilize recepton facilities. Steam-powered ships will utilize reception facilities for sludge far less frequently. Since most of the oceangoing ships serviced by ports and terminals, other than oil loading ports and terminals, are foreign flag and diesel-powered, the Coast Guard proposes that a standard of ten metric tons for each ten oceangoing ships using the port or terminal daily would have to be met for the reception facility to be considered adequate.

The IMO Guidelines suggest that 100 metric tons of capacity should be available at a port for reception of oily bilge wastes. Once again, this figure does not account for vessel traffic density and 100 metric tons may be excessive for small ports and inadequate for large ones. Two commenters suggested that the average oceangoing ship will have ten metric tons of bilge residues to discharge. Accumulation of oily bilge wastes does not vary significantly between diesel-powered ships and steam-powered ships. The Coast Guard estimates that one oceangoing ship out of every five arrivals will desire to discharge oily bilge wastes. Sections 158.210—158.230 propose that a minimum of ten metric tons capacity should be adequate for ports and terminals handling up to five

oceangoing ships daily; and that two metric tons for each oceangoing ship should be adequate for ports and terminals handling over five oceangoing ships daily.

In developing the criteria for sludge and bilge water residues, the Coast Guard considered not only the information sources mentioned above, but also the capacities of the types of mobile equipment commonly available in ports to serve as reception facilities.

(f) *Chemical Terminals and Shipyards Repairing Chemical Tankers.* Comments addressing issues raised by these paragraphs of the ANPRM will be addressed in a subsequent notice of proposed rulemaking dealing with Annex II of MARPOL 73/78.

(g) *Standard Discharge Connection.* It should be noted that proposed § 158.250 would require reception facilities, in order to be certified as adequate, to have a standard discharge connection for oily bilge water compatable with those required of oceangoing ships by 33 CFR 155.430.

**Summary of Analysis**

The costs, benefits, and other impacts of Federal regulation of reception facilities are best viewed in context with the entire MARPOL 73/78 Annex I scheme. When fully implemented, Annex I is expected to reduce the discharge of oil from ships into the sea from the present 280 million gallons per year to approximately 50 million gallons per year. While the costs of various aspects of the Annex I scheme can be attributed to the various implementing regulatory programs with reasonable accuracy, it is virtually impossible to apportion the benefit of reduction of discharge. The principal aspects of the Annex I scheme are as follows:

a. *Ship Equipment and Operational Requirements* (MARPOL 73/78, Annex I, Regulations 13 through 26; 33 CFR Parts 155 and 157). This aspect includes equipment and procedures to minimize the need for discharging oily wastes at sea and to minimize accidental discharges during casualties such as collisions and groundings.

b. *Ship Discharge Limits* (MARPOL 73/78, Annex I, Regulations 9 and 10; 33 CFR Parts 151 and 157). This aspect includes the limits placed on the amount of oily wastes ships can discharge at sea, and the circumstances in which allowable wastes may be discharged.

c. *Reception Facilities* (MARPOL 73/78, Annex I, Regulation 12; proposed 33 CFR Part 158). This aspect includes regulations to minimize the impact of the discharge limits on ships. The intent is to avoid the expense of delay from ships having to arrange for reception facilities on a case-by-case basis, and to avoid ships being placed in the position of having to contravene discharge requirements because of lack of reception facilities.

The analysis below is limited to the costs, benefits, and impacts that can be directly attributed to reception facility regulation. It should be borne in mind, however, that a portion of the economic benefit of conservation of recyclable energy resources, and of the environmental benefit of reduction of pollution at sea, is attributable to reception facility regulation as part of the overall Annex I scheme.

**Draft Regulatory Evaluation**

These proposed regulations are considered to be non-major under Executive Order 12291 and nonsignificant under DOT regulatory policies and procedures (44 FR 11034; February 26, 1979). A draft regulatory evaluation has been prepared and placed in the rulemaking docket and may be inspected or copied as detailed under ADDRESSES above. Copies may also be obtained from LT Davison as detailed under "**FOR FURTHER INFORMATION CONTACT**" above.

The draft evaluation projects cost to the Federal Government and the private sector. These costs include administrative costs associated with the preparation and processing of a Certificate of Adequacy, and the costs of providing reception facilities where they are not presently available. The Coast Guard assumes that two oil loading ports and terminals, one private and one Federal Government, would have to install ballast reception facilities. The Coast Guard further assumes that ten ports would have to purchase and operate tank trucks to serve as mobile reception facilities for oily bilge waste and sludge. Cost information was solicited from commenters to the ANPRM and independent waste haulers. Based on multiple cost estimates that were received, the high estimate of a total annual cost of $7.8 million is projected. Using averages of cost estimates would result in a total projected annual cost of $5.4 million.

Economic benefits could not be accurately quantified; environmental benefits are discussed below. The primary economic benefit would be in the avoidance of delay of oceangoing ships. The Coast Guard projects that an average of 10,938 oceangoing ships would use reception facilities annually. Based on an unweighted average of the demurrage rates provided by one commenter, each average hour of delay for reception facilities would result in an overall cost of $7.5 million in ship operating expenses annually. While the Coast Guard cannot at this time estimate how many hours, on the average, would be saved by Federal regulation of reception facilities, the costs and benefits would balance if an average of 1.04 hours were saved per ship using reception facilities.

As noted under **Summary of Analysis**, above, the proposed reception facility regulations are part of the overall MARPOL 73/78 scheme which is expected to result in a net reduction of 230 million gallons per year of oily wastes discharged into the seas. This will result in an economic benefits in reduction in waste of energy resources and in an increase in recycling of those oily wastes that are produced by ships. A portion of this economic benefit should be attributable to reception facility regulation, although the Coast Guard has not devised a method to accurately determine what portion should be attributed in this manner. The public is invited to submit further information to form the basis of a more accurate final evaluation.

**Regulatory Flexibility Act**

In accordance with the Regulatory Flexibility Act, an initial regulatory flexibility analysis which discusses the impact of the proposal on small entities has been made part of the Draft Regulatory Evaluation. A copy of the Draft Regulatory Evaluation has been placed in the rulemaking docket and a copy may be obtained from LT Davison as detailed under "**FOR FURTHER INFORMATION CONTACT**" above.

In the advance notice of proposed rulemaking the Coast Guard proposed considering ports and terminals handling less than $50,000 worth of cargo annually as "small entities" for the purposes of the Regulatory Flexibility Act (5 U.S.C. 601–612). Those commenters addressing this issue thought this cutoff was too low. One commenter thought that a "small entity" should be those ports and terminals with annual receipts of $112,000 or less. Two commenters proposed that "small entity" be defined in terms of barrels of liquid cargo handled or tons of dry cargo handled. Volume of cargo handled is not an accurate criteria because of the variety of business arrangements of ports and terminals.

In light of the comments the Coast Guard proposes using the Small Business Administration's (SBA) definition of "small business" for SBA loans for concerns engaging in transportation and warehousing (13 CFR 12.3–10(f)). Under this definition, a

concern is considered small if its annual receipts do not exceed $1.5 million.

The Coast Guard does not have any information that would indicate how many of the estimated 1,348 ports and terminals affected by the proposed regulations would be considered small entities under the SBA definition. Some small ports and terminals are affiliated with large corporations having a substantial monetary interest in the cargo while others are independent contractors for wharfage and warehousing. For this reason the analysis was limited to expected impact on an individual small port or terminal. For purposes of meeting the Regulatory Flexibility Act the Coast Guard, therefore assumes that a "substantial" number of small entities are affected.

The Coast Guard expects that many small entities will either use existing mobile reception facilities or will be able to use reception facilities located elsewhere with a waiver under proposed § 158.150. Costs to small entities would consist of the administrative costs of application for a certificate of adequacy. In many cases these costs will be substantially reduced, since many small entities will combine their efforts and apply as a port. The cost of this one-time effort is expected to be $780.00 per small entity, and is not considered to be significant.

Paperwork Reduction Act

This proposed rulemaking contains information collection requirements in the following proposed rules: § 151.09, § 158.140, § 158.150, § 158.185 and § 158.190. They have been submitted to the Office of Management and Budget for approval under the provisions of the Paperwork Reduction Act of 1980. (44 U.S.C. 3501 *et seq.*). Persons desiring to comment on these information collection requirements should submit their comments to: Office of Regulatory Policy, Office of Management and Budget, 726 Jackson Place, NW., Washington, D.C. 20503, ATTN: Desk Officer, U.S. Coast Guard. Persons submitting comments to OMB are also requested to submit a copy of their comments to the Coast Guard as indicated under "ADDRESSES".

Environmental Impact

The Coast Guard does not expect this program to have an adverse impact on the environment. Other laws and regulations currently in effect or pending restrict the amount of waste that can be discharged into the ocean, and require that wastes not legally discharged be retained for disposal ashore. Implementation of MARPOL 73/78 Regulation 12 formalizes the indirect requirement that shore reception facilities be provided in order for ships to comply with the discharge restrictions. The proposed regulations would not change the demand for reception facilities because they would neither reduce the generation of oily waste nor further restrict discharges to the ocean. They would not affect the type or volume of oily waste coming ashore for processing and disposal.

The proposed regulations would affect the locations that these wastes come ashore since, under the status quo, ports might not make reception facilities available just because of a market demand. Without the proposed regulations ship wastes would be concentrated at ports where reception facilities are already available and at those where they would be provided in response to market demand. As to the environmental significance of this effect, one commenter indicated that industrialized areas are already overloaded with waste disposal problems, while several others thought that the industrialized ports would be better equipped to handle wastes than remote ports. The Coast Guard estimates that approximately 400,000 metric tons of oily wastes might be dispersed to local reception facilities under the proposed regulations. However, the Coast Guard considers that this dispersal would be environmentally neutral since oily wastes can be readily transported and recycled or disposed of.

As noted under Summary of Analysis, above, the proposed reception facility regulations are part of the overall MARPOL 73/78 scheme which is expected to result in a net reduction 230 million gallons per year of oily wastes discharged into the seas. While it is impractical to accurately apportion the amount of this reduction attributable to reception facility regulation, the Coast Guard considers that this environmental benefit more than compensates for any negative environmental impact that might be attributed to this regulatory program.

An environmental assessment and a Finding of No Significant Impact have been prepared and are available as detailed under "ADDRESSES" above.

List of Subjects

*33 CFR Part 151*

Oil pollution, Reporting and recordkeeping requirements.

*33 CFR Part 158*

Hazardous waste, Oil pollution, Ports, Reception facilities, Terminals, Vessels.

In consideration of the preceding, it is proposed to amend Subchapter O, Chapter I, Title 33 of the Code of Federal Regulations as follows:

## PART 151—[AMENDED]

1. By revising § 151.09(f) to read as follows:

**§ 151.09 Control of discharge of oil.**

* * * * *

(f) The person in charge of an oceangoing ship that cannot discharge oil residues into the sea in compliance with paragraphs (a), (b), (c) or (d) of this section shall ensure that those residues are—

(1) Retained on board; or

(2) Discharged to a reception facility. If the reception facility is in a port or terminal in the United States, each person in charge of each tanker or other oceangoing ship of 400 gross tons or more shall notify the port or terminal, at least 24 hours before entering the port or terminal, of—

(i) The estimated time for discharging oil residues or oily mixtures;

(ii) The type of oil residues or oily mixtures to be discharged; and

(iii) The volume of oil residues or oily mixtures to be discharged.

* * * * *

2. By adding a new Part 158 to read as follows:

## PART 158—RECEPTION FACILITIES

**Subpart A—General**

Sec.



**Subpart B—Criteria for Reception Facilities: Oil Residues and Mixtures**

**Subpart C—Criteria for Reception Facilities: Noxious Liquid Substances [Reserved]**

Authority: Sec. 4, 94 Stat. 2298 (33 U.S.C. 1903(b)), 49 CFR 1.46(hh).

## Subpart A—General

### § 158.100 Purpose.

This part establishes criteria for determining the adequacy of reception facilities and procedures for certifying that those reception facilities are adequate for receiving residues and mixtures containing oil from tankers and other oceangoing ships of 400 gross tons or more.

### § 158.110 Applicability.

This part applies to each port and each terminal in the United States or under the jurisdiction of the United States that is used by a tanker or other oceangoing ship of 400 gross tons or more.

### § 158.120 Definitions and acronyms.

As used in this part:

"Captain of the Port" (COTP) means the U.S. Coast Guard officer commanding a Captain of the Port Zone described in Part 3 of this Chapter.

"Clean ballast" has the same meaning as contained in § 157.03(e) of this subchapter.

"Commandant" means Commandant, U.S. Coast Guard.

"MARPOL Protocol" (MARPOL 73/78) stands for the International Convention for the Prevention of Pollution from Ships, 1973 (done at London, November 2, 1973), as modified by the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships 1973 (done at London on February 17, 1978).

"Oceangoing" ship has the same meaning as contained in § 151.05(j) of this subchapter.

"Person" has the same meaning as contained in § 151.05(n) of this subchapter.

"Person in charge" means an owner of, an operator of, or a person authorized to act in behalf of a port or terminal.

"Port" means—

(a) A voluntary group of terminals;

(b) A port authority or other organization that elects to be considered a port for the purposes of this part; or

(c) A place or facility that has been specifically designated as a terminal by the COTP.

"Reception facility" means anything capable of receiving shipboard oil or chemical wastes, that includes, but is not limited to—

(a) Fixed piping that conveys wastes from the ship to a storage or treatment system;

(b) Mobile facilities, including tank barges, railroad cars or tank trucks; and

(c) Any combination of fixed and mobile facilities.

"Segregated ballast" has the same meaning as contained in § 157.03(r) of this subchapter.

"Ship" has the same meaning as contained in § 151.05(q) of this subchapter.

"Tank barge" has the same meaning as contained in 46 CFR 30.10–65.

"Tanker" means an oceangoing ship constructed or adapted primarily to carry oil or hazardous materials in bulk in the cargo spaces.

"Terminal" means an onshore facility or an offshore structure located in the navigable waters of the United States or subject to the jurisdiction of the United States and used, or intended to be used, as a port or facility for the transfer or other handling of a harmful substance.

Note.—A ship repair yard is a terminal.

### § 158.130 Delegations.

Each COTP is delegated the authority to—

(a) Conduct an inspection of each reception facility for which an application is submitted under § 158.140 to determine if it meets the requirements of—

(1) MARPOL 73/78; and

(2) The requirements of Subpart B of this part;

(b) After determining that the reception facility passes the inspection under paragraph (a) of this section, issue a Certificate of Adequacy to the applicant;

(c) Grant waivers under § 158.150 that do not violate MARPOL 73/78 or the Act to Prevent Pollution from Ships (33 U.S.C. 1901 *et seq*);

(d) Designate terminals; and

(e) Deny entry to each oceangoing ship to each port, terminal, or group of ports and terminals (group) not holding a valid Certificate of Adequacy issued by the COTP under this delegation.

### § 158.140 Applications for Certificates of Adequacy.

(a) The person in charge may request the Coast Guard to certify that the port's or terminal's facilities for receiving residues and mixtures containing oil from tankers or other oceangoing ships of 400 gross tons or more are adequate by applying to the COTP of the Zone in which the port or terminal is located.

(b) Each application for a Certificate of Adequacy must be in writing and contain the following:

(1) The name, mailing address, and telephone number of the person in charge.

(2) The geographic location of each terminal.

(3) The number, types, and principal trades of tankers and other oceangoing ships of 400 gross tons or more using each port and terminal.

(4) The following information for each reception facility:

(i) The total volume of residues and mixtures containing oil that it can receive each day.

(ii) The transfer rates.

(iii) The name, address, and telephone number of the person who is in charge of the reception facility.

(iv) If the reception facility is not under the control of the person in charge of the port or terminal, a statement from the person who is in charge of the reception facility of the maximum daily volume of residues and mixtures containing oil that will be accepted from oceangoing ships using the port or terminal.

(5) A copy of each license, permit, and document held by the reception facility that is required by any Federal, state, or local environmental law or regulation for the storage, handling, transporting processing, and disposal of the residues and mixtures containing oil.

### § 158.150 Waivers.

(a) If the person in charge believes that a requirement in this part is unreasonable or impracticable for the port's or terminal's operations, the person in charge may submit an application for a waiver to the COTP. This application must—

(1) Be in writing; and

(2) Include the—

(i) Reasons for the waiver;

(ii) Proposed alternatives; and

(iii) Any additional information requested by the COTP.

(b) If the COTP grants a waiver under this section, the waiver—

(1) Is in writing; and

(2) Specifies each alternative that applies and the requirement under this part for which the alternative is substituted.

(c) The waiver issued under paragraph (b) of this section must be attached to the Certificate of Adequacy issued under § 158.160.

### § 158.160 Issuing the Certificate of Adequacy.

(a) After reviewing the application, conducting an inspection, and consulting with the Administrator of the Environmental Protection Agency (EPA), the COTP—

(1) Issues a Certificate of Adequacy to the applicant; or

(2) Denies the application for the Certificate of Adequacy and informs the applicant in writing of the reasons for the denial.

(b) The Certificate of Adequacy shows any waivers that are granted under § 158.150.

**§ 158.163 Reception facility operations.**

(a) Each person in charge who holds a Certificate of Adequacy shall ensure that the reception facility does not operate in a manner that violates any requirement under this part.

(b) A copy of the Certificate of Adequacy must be—

(1) At each port and terminal; and

(2) Available for inspection by the COTP and the master, person who is in charge, or the agent of an oceangoing ship.

(c) Ports and terminals required to have a Coast Guard Operations Manual must have a copy of the Certificate of Adequacy, including any waivers, attached to that operations manual.

**§ 158.165 Certificate of Adequacy: Validity.**

(a) Each Certificate of Adequacy remains valid unless suspended or revoked under § 158.170.

(b) A Certificate of Adequacy which has been suspended or revoked must be returned to the COTP.

(c) The person in charge shall notify the COTP in writing of each change within 10 days after any of the information supplied under § 158.140 changes.

(d) Failure to notify the COTP in writing of each change within 30 days after any of the information supplied under § 158.140 changes is grounds for revocation of a Certificate of Adequacy.

**§ 158.170 Suspension and revocation of Certificates of Adequacy: Procedure.**

(a) If the COTP has evidence that the reception facility does not operate in accordance with § 158.165, the COTP notifies the person in charge of the grounds for suspension or revocation. After notification, the COTP may immediately suspend the Certificate of Adequacy if continued operations will result in undue delay to oceangoing ships.

(b) Evidence or arguments for the retention of the Certificate of Adequacy that are submitted to the COTP within thirty days after notice or suspension occurs under paragraph (a) of this section are considered before further action is taken. If the person in charge fails to meet any measures ordered by the COTP, the COTP may do the following:

(1) Suspend or revoke the Certificate of Adequacy.

(2) Initiate penalty action under Subpart 1.07 of this chapter.

(c) The suspension or revocation of the Certificate of Adequacy by the COTP may be appealed under the procedure in § 158.190.

**§ 158.180 Denial of entry.**

After October 2, 1984, no tanker, or other oceangoing ship of 400 gross tons or more, required by Regulation 9 of Annex I of MARPOL 73/78 to retain onboard while at sea, oil or oily mixtures, may enter any port or terminal to which this part applies unless—

(a) The port or terminal holds a valid Certificate of Adequacy; or

(b) The ship is entering under force majeure.

**§ 158.190 Appeals.**

(a) Any person directly affected by an action taken under this part may request reconsideration by the Coast Guard officer responsible for that action.

(b) Except as provided under paragraph (d) of this section, any person not satisfied with a ruling made under the procedure contained in paragraph (a) of this section may—

(1) Appeal that ruling in writing to the Coast Guard District Commander of the district in which the action was taken; and

(2) Supply supporting documentation and evidence that the appellant wishes to have considered.

(c) The District Commander issues a ruling after reviewing the appeal submitted under paragraph (b) of this section, which is final agency action.

(d) If the delay in presenting a written appeal has an adverse impact on the operations of the appellant, the appeal under paragraph (b) of this section—

(1) May be presented orally; and

(2) Must be submitted in writing within five days after the oral presentation—

(i) With the basis for the appeal and a summary of the material presented orally; and

(ii) To the same Coast Guard official who heard the oral presentation.

## Subpart B—Criteria for Reception Facilities: Oil Residues and Mixtures

**§ 158.200 General.**

The reception facility used to meet Subpart A must—

(a) Be prepared to receive oily wastes and mixtures from the ship within 24 hours after notice by that ship;

(b) Complete the reception of oily ballast from the ship in less than 10 hours after waste transfer operations begin;

(c) Complete the reception of other oily residues and mixtures in less than 4 hours after the transfer operation begins; and

(d) Hold each state, local, and Federal permit and license required by law and regulation.

**§ 158.210 Ports and terminals loading crude oil.**

The reception facility for a crude oil loading port or terminal must have the capacity for receiving—

(a) At least 10 metric tons (11 short tons) of sludge from on-board fuel and lubricating oil processing;

(b) If an average of 5 tankers or less, based on annual data, use the port or terminal each day, at least 10 metric tons (11 short tons) of oily bilge water;

(c) If an average of more than 5 tankers, based on annual data, use the port or terminal each day, at least 2 metric tons (2.2 short tons) of oily bilge water for each tanker; and

(d) A total amount of oily ballast equal to 30% of the deadweight tonnage of the largest tanker that uses the port or terminal and that is not equipped with dedicated clean ballast tanks or segregated ballast tanks that meet Part 157 of this subchapter, multipled by the average number of tankers, based on annual data, using the port or terminal each day.

**§ 158.220 Ports and terminals transferring more than 1,000 metric tons of oil, except crude oil.**

The reception facility for an oil loading port or terminal other than a crude oil loading port or terminal that transfers an average of more than 1,000 metric tons (1,100 short tons) each day, based on annual data, to tankers, other than tank barges that do not ballast or wash cargo tanks while proceeding en route, must have the capacity for receiving—

(a) At least 10 metric tons (11 short tons) of sludge from on-board fuel and lubricating oil processing;

(b) If an average of 5 tankers or less, based on annual data, use the port or terminal each day, at least 10 metric tons (11 short tons) of oily bilge water;

(c) If an average of more than 5 tankers, based on annual data, use the port or terminal each day, at least 2 metric tons (2.2 short tons) of oily bilge water for each tanker;

(d) A total amount of oily ballast equal to 30% of the deadweight tonnage of the largest tanker that uses the port or terminal and that is not equipped with dedicated clean ballast tanks or segregated ballast tanks that meet Part 157 of this subchapter, multiplied by the average daily number of tankers, based on annual data; and

(e) A total amount of cargo residue equal to 0.2% of the total cargo capacity of the largest tanker using the port or terminal multiplied by the average daily number of tankers, based on annual data.

**§ 158.230 Ports and terminals, except ports and terminals under §§ 158.210, 158.220 and 158.240.**

Reception facilities except those under §§ 158.210, 158.220, and 158.240 of this subpart, must have the capacity for receiving—

(a) If an average of 10 oceangoing ships or less, based on annual data, use the port or terminal each day, at least 10 metric tons (11 short tons) of sludge from on-board fuel and lubricating oil processing;

(b) If an average of more than 10 oceangoing ships, based on annual data, use the port or terminal each day, at least 1 metric ton (1.1 short tons) of sludge for each oceangoing ship;

(c) If an average of 5 oceangoing ships or less, based on annual data, use the port or terminal each day, at least 10 metric tons (11 short tons) of oily bilge water; and

(d) If an average of more than 5 oceangoing ships based on annual data, use the port or terminal each day, at least 2 metric tons [2.2 short tons] of oily bilge water for each oceangoing ship.

**§ 158.240 Ship repair yards.**

The reception facility that services oceangoing ships using a ship repair yard must have a capacity for receiving—

(a) An amount of ballast from bunker tanks, and the wash water and residues from the cleaning of bunker tanks and sludge tanks, equal to 8% of the bunker capacity of the largest oceangoing ship serviced;

(b) An amount of oily ballast equal to 30% of the deadweight tonnage of the largest tanker serviced that is not equipped with dedicated clean ballast tanks or segregated ballast tanks that meet Part 157 of this subchapter;

(c) An amount of oily solids from cargo tanks equal to 0.1% of the deadweight tonnage of the largest tanker serviced;

(d) An amount of wash water from in-port tank washing equal to 8% of the deadweight tonage of the largest tanker serviced; and

(e) An amount of liquid cargo residues based on the following percentages of deadweight tonnage of the largest tanker serviced:

(i) For crude oil tankers, 1%.

(ii) For black product tankers, 0.5%.

(iii) For white product tankers, 0.2%.

**§ 158.250 Standard discharge connection.**

Each reception facility that receives oily bilge water must have a standard discharge connection that—

(a) Meets § 155.430 of this subchapter; and

(b) Attaches to each hose and pipe that removes oily bilge water from oceangoing ships.

## Subpart C—Criteria for Reception Facilities: Noxious Liquid Substances [Reserved]

Dated: March 9, 1984.

**B.F. Hollingsworth,**

*Rear Admiral, U.S. Coast Guard, Chief, Office of Marine Environment and Systems.*

[FR Doc. 84-16287 Filed 6-18-84; 8:45 am]

BILLING CODE 4910-14-M

# CROWN BAY PORT AREA
# MASTER PLAN

## ADDENDUM 5

## SCHEDULE OF LAND DESCRIPTIONS

CROWN BAY

## SCHEDULE OF LAND USE DESCRIPTIONS

| TYPE | CATAGORY NO. | | USE | SUB-CLASSIFICATION |
|---|---|---|---|---|
| RESID | 11. | 111 | Single family | |
| | | 112 | Two family | |
| | | 113 | Multi family | |
| COMMERCIAL SERVICE | 12. | 121 | Mixed commercial | .1 Retail, general<br>.2 Retail, tourist<br>.3 Retail, auto<br>.4 Auto sales<br>.5 Auto repairs, service<br>.6 Wholesale<br>.7 Office<br>.8 Warehousing |
| | | 122 | Resort commercial | .1 Hotel<br>.2 Guest house<br>.3 Condo<br>.4 Restaurants/Bars |
| | | 124 | Institutional | .1 Churches<br>.2 Schools |
| INDUSTRY | 13. | 131 | Water dependent | .1 Petro chemical<br>.2 Dry storage<br>.3 Marine service |
| | | 132 | Other | .1 Light manufacture<br>.2 Building storage<br>.3 Service industrial |

# CROWN BAY - SCHEDULE OF LEASES

PROPERTIES ADMINISTERED BY: Prop. & Proc.


Date 09-27-84

| Parcel No. | Leasee | Present Tenant | Land Use Class No. | Description | Expir. Date | Notes |
|---|---|---|---|---|---|---|
| K 4 | St. Thomas Gas | Same | 131 | Petro-chem. | | |
| 5 | Tri-Island Ent. | Same | 132 | Service Ind. | | |
| 5A | Robert Desrocher | Santana Auto Rprs. | 121 | Auto Repairs | | |
| 24 | R. Moorehead | Creque Distrib. | 121 | Wholesale | 7-94 | |
| 25 | G. K Blondell, Inc. | Same | 112 | " | 2-86 | |
| 26 | | Tempaire AC & Refrig. | 132 | Service Ind. | | |
| | | PWD | 132 | Building | | |
| 19 | Carib. Gas Co. | Same | 131 | Petro-chem. | | |
| 60 | | (Quonset Hut) | 121 | Wholesale | | |
| 36 | I. Greaux | | | | | |
| 22 | T. &. R. Quetel | Sundowner Nite Club | 122 | Restaurant | 7-87 | |
| 89 | Texaco Antilles | Same | 131 | Petro-chem. | | |
| 110 | ABC Serv. Inc. | Same | 121 | Retail-general | 6-90 | |
| 29A | C.&N. DePerry | Unknown | | | 3-94 | |
| 29B | " " " | Unknown | | | 3-94 | |
| 126 | | Unknown | 132 | Light manu. | | |
| 127 | V.I. Industries | Unknown | 132 | " " | 3-87 | |
| " | Pedrito Blyden | Interior Work | 132 | " " | 11-85 | |
| 30 | V.I. Dept. Ed. | School Lunch W'hse | 121 | Warehouse | | |
| 30A | " " " | " " " | 121 | " | | |

CROWN BAY - SCHEDULE OF LEASES

PROPERTIES AMINISTERED BY: Prop. & Proc.


Date 09-27-84

| Parcel No. | Leasee | Present Tenant | Land Use Class No. | Land Use Description | Expir. Date | Notes |
|---|---|---|---|---|---|---|
| S Bldg 1 | V.I. Govt. | Dept. of Prop. & Proc. | | | | |
| | | Govt. Printing Off. | 132 | Service ind. | | |
| 123 | V.I. Govt. | V.I. Dept. Health Strs. | 121 | Warehouse | | |
| 129 | Chinnery Dev. Corp. | V.I. Planning Off. | 121 | Office | | |
| | | W.F. McComb Engr. | 121 | " | | |
| 133 | " " " | Deliver It | 131 | Dry storage | 11-85 | |
| 134 | H. Francis | Same | 132 | Building storage | 11-95 | |
| 70A | Ziebart, Inc. | | 132 | Service ind. | | |
| 70B | | Vacant | | | 6-90 | |
| S 86 | Bob's Welding & | Same | 132 | Service ind. | 2-94 | |
| | Machine Shop | Same | 121 | Retail, gen. | | |
| Bldg 12 | Island Laundries | Same | 132 | Service ind. | | |
| | | Munzar Motors | 121 | Auto repairs | | |
| Bldg 11 | VIDPW | Same | 132 | Building storage | | |
| Bldg 14 | VIGOVT | National Guard | 121 | Office | | |
| 116 | National Guard | Same | 121 | " | | |
| 79 | V.I. Dept. Prop. & Proc. | Same | 121 | Auto Storage | | |
| 121-122 | V.I. Dept. Prop. & Proc. | " | 121 | " " | | |

# CROWN BAY - SCHEDULE OF LEASES

PROPERTIES ADMINISTERED BY: Prop. & Proc.


Date 09-27-84

| Parcel No. | Leasee | Present Tenant | Land Use Class No. | Land Use Description | Expir. Date | Notes |
|---|---|---|---|---|---|---|
| 126 | | Vacant | | | | |
| Bldg 8 | V.I. DPW | Same | 121 | Office | | |
| 16 | V.I. Govt. | National Guard | 121 | " | | |
| | | Various Govt. Agencies | | | | |
| 17 | V.I. Govt. | Tracy Radiator | | | | |
| | | Nordmeer Welding, Etc. | 131 | Service ind. | | |
| 17A | Island Gas | Same | 131 | " " | | |
| 18 | | Unknown | | | | |
| 21 | Consolidated Trading | V.I. DPW | 132 | Building storage | | |
| 31A | | Vacant | 132 | " " | | |
| 31B | | (Steel Bldg) unknown | | | | |
| 23 | | AQ Mart, Subbase Elect. | 121 | Retail general | | |
| 40 | #40 Subbase Corp. | Pennysaver, V.I. Energy | 121 | " " | | |
| | | Off., | | | 10-93 | |
| 39 | Bakale, Inc. | Tri-Mart, KFC | 121 | Retail general | | |
| 41 | | Suntex, Drafting Shaft | 121 | " " | | |
| | | Gour. G'lery, Boyce Hdwr. | 121 | " " | | |
| 42 | Commercial Dev. | Superfood | 121 | " " | 1-93 | |
| 11B | Coca Cola, VI | KFC | 121 | Warehouse | 5-92 | |
| 94 | | Unknown | | | | |

CROWN BAY - SCHEDULE OF LEASES

PROPERTIES ADMINISTERED BY: Prop. & Proc.


Date 09-27-84

| Parcel No. | Leasee | Present Tenant | Land Use Class No. | Description | Expir. Date | Notes |
|---|---|---|---|---|---|---|
| 95 | Raimer's Cabinet Shp. | Same | 132 | Light ind. | 8-85 | |
| 97 | | M&M Woodcraft | 132 | " " | | |
| Bldg 16 | Caribbean Steel | Same | 132 | Building storage | | |
| Bldg 16A | | (Steel Bldg) unknown | | | | |
| A-1 | | Vacant | | | | |
| | | Laundromat | 132 | Service ind. | | |

# CROWN BAY - SUB BASE PROPERTIES

PROPERTIES ADMINISTERED BY: V.I.P.A.


Date 09-27-84

| Parcel No. | Leasee | Present Tenant | Land Use Class No. | Description | Expir. Date | Notes |
|---|---|---|---|---|---|---|
| S Bldg 10 | Various | Various; | 121 | Auto repairs | | |
| S 16A | Unoccupied | Sub-Base Electric | 132 | Service industry | | |
| S Bldg 16 | Caribbean Steel, Inc. | Caribbean Steel | 132 | Building storage | | |
| S 65 | Small's Electric | Small's Electric | 132 | Service industry | | |
| S Bldg 18 | V.I. Water & Power Authority | V.I.W.A.P.A. | 121 | Offices | | |
| S C | Danny's Fishermans Wharf | Picadilly Mall, Inc. | 122 | Restaurant | | |
| S 162 | C. Cashman, II & E. Kralt, Jr. | Haulover Marine | 123 | Marina (repair) | | |
| S Phase I | Newly filled land owned by V.I.P.A. approx. 11 ac. | | | | | |
| S a* | Lynch | Lynch's Pit Stop | 122 | Restaurant | | |
| S b* | M.S.I., Inc. | Same | 131 | Dry storage | | |
| C a* | T.M.T. Sand Co. | T.M.T. Sand Co. | 131 | " " | | |
| C b* | Wm. Clarenbach | | | | | |
| C c* | V.I.P.A. | Demurrage Space | 131 | " " | | |
| C d* | Chuck Kline | Same | 131 | " " | | |

CROWN BAY - SUB-BASE PROPERTIES

PROPERTIES ADMINISTERED BY: V.I.P.A.


Date 09-27-84

| Parcel No. | Leasee | Present Tenant | Land Use Class No. | Description | Expir. Date | Notes |
|---|---|---|---|---|---|---|
| C 3A | Tropical Shpg., Inc. | Same | 131 | Dry storage | | |
| C 3B | " " " | " | " | " " | | |
| C 3C | " " " | " | " | " " | | |
| C 3D | " " " | " | " | " " | | |
| C 4 | " " " | " | " | " " | | |
| C 13 | Thous. Island Broad-casting | WVWI Radio | 144 | Radio tower | | |
| C 15 | V.I. Maritime, Inc. | V.I. Maritime, Inc. | 131 | Dry storage | | |
| C 17 | Miami Cars, Inc. | Gregerie East Charters, et. al. | 121/123 | Retail/marina | | |

*Lower case letters used for plan identification only. NOT official lot designation.

# CROWN BAY - SUB-BASE PROPERTIES

(Crown Bay (c) taken as Careen Hill West to end of present bulkhead; Sub-base (s) is end of bulkhead SW to Haypiece Hill) Ref. to Map #1.

PROPERTIES AMINISTERED BY: V.I.D.C.C.A

Sheet 1 of 1
Date 09-27-84

| Parcel No. | Leasee | Present Tenant | Land Use Class No. | Description | Expir. Date | Notes |
|---|---|---|---|---|---|---|
| S 10 | ARI Corp. | Budget Car Rental | 121 | Auto service | 1994 | |
| S 11A | ARI Corp. | " " " | 121 | " " | 1994 | |
| S 13 | E. DeLagarde | E. DeLagarde | | Vacant | 1986 | |
| S 14 | Shoreline Marine | Shoreline Marine | 123 | Marina | 1988 | |
| S 14A | Shoreline Marine | " " | 123 | " | 1988 | |
| S 15 | ARI Corp. | Joe's Liquor | 121 | Wholesale | 1994 | |
| S 43A | MSI, Inc. | MSI, Inc. | 121 | Retail (build) | 1994 | |
| S 44B | Do Petri, Inc. | O'Neal's Auto Parts | 121 | Retail auto | 1990 | |
| S 45 | L. Benjamin | Charlies Trucking | 121 | Auto service | 1991 | |
| C 2 | Sea Chest Inc. | Sea Chest | 121 | Retail general | 1987 | |
| C 5 | Tropical Shipping | Tropical Shipping | 131 | Dry storage | 1997 | |
| C 6 | " " | " " | " | " " | 1997 | |
| C 7 | MBT Motors | Crown Bay Motors | 121 | Auto sales | 1998 | |
| C 8 | K. Brunt | MSI, Inc., Caribb. Interiors | 121 | Retail general | 1987 | |

# CROWN BAY PORT AREA
# MASTER PLAN

## ADDENDUM 6

## REFERENCES

# REFERENCES


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